

Understanding Turnover in Employees of Color in STEM Fields: The Role of Identity, Fit, Microaggressions, and Racial Climate

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ABSTRACT

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The purpose of this study was to expand on previous literature by examining the role of racial identity attitudes in the workplace, which have been infrequently studied. The current study tested the relationships between workplace variables and racial identity attitude statuses, specifically in STEM fields. This study, using a national sample of 485 STEM employees, examined associations using bivariate correlations between two predictor variables (racial climate and racial/ethnic microaggressions) on three outcome variables (job satisfaction, turnover intentions, and person-organization fit). Moderation relationships of four variables (racial identity attitude statuses: Conformity, Dissonance, Immersion, Internalization) on the paths between the predictor and outcome variables were also examined using structural equation modeling. Results provide mixed support for hypothesized associations. Racial climate and microaggressions attitudes yielded significant direct associations with the workplace outcome variables and Dissonance and Immersion attitudes yielded moderation effects on the paths between predictor and outcome variables. Implications of these findings are discussed, as well as implications for future research, clinical interventions, and workplace recommendations.

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CHAPTER I

INTRODUCTION

According to the U.S. Census Bureau (2010), half of the newborns in the United States are people of color. In 2019, the majority of people under 18 years old in the United States will be people of color (Ragins, Gonzalez, Ehrhardt, & Singh, 2012). This brings changes to society, and may bring challenges to different spaces such as school or the workplace. Workplaces are becoming more and more diverse, and typically underrepresented populations, such as people of color, are becoming a more integral part of the workplace (Stevens, Plaut, & Sanchez-Burks, 2008; Sue, 2011). However, employees of color are quitting their jobs at a much higher rate than White employees (Hom, Roberson, & Ellis, 2008). Employees of color also continue to be underrepresented in science, technology, engineering, and mathematics (STEM) fields (Pew Research Center, 2018). In the past 10 years, STEM jobs have had three times as fast of growth as in non-STEM fields (Langdon et al., 2011). A recent study found that in STEM fields, 25% of Black and Latinx employees and 15% of Asian employees experienced stereotyping at their previous job. This study also found that stereotyping and bullying were found to be statistically significant predictors of job turnover (Scott, Klein, & Onovakpuri, 2017). As STEM job growth continues, and the demographics of the workforce change, the experiences of people of color in STEM workplaces need to be examined to better understand job turnover.

Job turnover, or how and why employees leave their jobs, has been an issue of interest to many different people throughout the 20th and 21st centuries, including clinicians, human resources departments, and organizational scholars (Hom, Mitchell, Lee, & Griffeth, 2012; Griffeth, Hom, & Gaertner, 2000; Prince, 1977). Employee turnover has financial consequences,

such as the cost of recruiting and training replacements, and also disrupts job operations (Scott, Klein, & Onovakpuri, 2017; Hom et al., 2012; Allen, Bryant, & Vardaman, 2010; Ton & Huckman, 2008).

Research suggests that there are racial differences in voluntary turnover and employee retention in organizations. Studies have shown that the retention rate at jobs for people of color is lower than the retention rate of their White counterparts (Griffeth & Hom, 2001; Hom, Roberson, & Ellis, 2008; Scott et al., 2017). In a study of almost 500,000 employees, Hom et al. (2008) found that people of color had higher quit rates than White employees, with African American's quit rate being 4.96%, Hispanic Americans 4.48%, Native Americans 3.86%, and Asian American's being 3.69%. White American employees' quit rate was 3.52 (Hom et al., 2008). In a recent study of employees in the technology field, nearly 40% of the participants indicated that unfairness or mistreatment played a role in their decision to leave their company (Scott et al., 2017).

There are a number of different frameworks in the field of vocational psychology that aim to conceptualize an employee's fit in the workplace, and how fit impacts job satisfaction and job turnover. One prevailing orientation is that of person-environment fit. Generally, person-environment fit theories are concerned with how characteristics of an individual interact with characteristics of their workplace, including the overall organization, their work group, and their supervisor. There are a number of different aspects of person-environment fit, which include person-job fit, person-person fit, and person-organization fit. For the purposes of this study, person-organization fit will be examined.

Person-organization fit is a specific level of person-environment fit that is concerned with the interaction between characteristics of an individual employee and the characteristics of an

organization (Chatman, 1989; Kristof, 1996; Su, Murdock, & Rounds, 2015). Research shows that when individuals perceive a good fit between him or her and their workplace, individuals report higher job satisfaction and lower turnover intentions (Lovelace & Rosen, 1996; Lyons & O'Brien, 2006).

Job satisfaction is an individual's feelings to his or her job (Hackman & Oldman, 1976). Job satisfaction can describe attachment both globally (to an organization in its entirety) or in regards to specific facets, such as their satisfaction with their direct supervisor (Tett & Meyer, 1993). Research shows that job satisfaction is negatively correlated with turnover intentions; that is, when job satisfaction is high, turnover intentions are low, and vice versa (Edwards & Cable, 2009; Griffeth, et al., 2000; Lovelace & Rosen, 1996; Steers & Mowday, 1981).

Turnover intentions refer to whether or not an employee plans to leave an organization. This could be a deliberate and willful decision, or an organization's plan to remove someone from a position (McKay et al., 2007; Tett & Meyer, 1993). Turnover intentions are the strongest single predictor of actual job turnover (Griffeth, et al., 2000). Lower perception of P-O fit leads to less satisfaction and higher turnover intentions (Lyons & O'Brien, 2006). Job satisfaction and turnover intentions have been shown to be the best predictors of actual job turnover (Tett & Meyer, 1993). It is clear that perceptions of person-organization fit have an impact on job outcomes, but what leads to person-organization fit?

As stated, person-organization fit is based on the characteristics of an individual and the characteristics of an organization. When thinking about characteristics of individuals, it is important to think about their identities. People may hold a number of different identities, and these identities may be salient in different ways to each person. One identity that may be more or less salient for different individuals is their race. Based on the changing demographics in this

country in regards to race, it is important to examine how race could possibly impact fit in the workplace. There is also a gap in person-organization fit research when examining race, and this study will contribute race-based research to P-O fit literature.

Social categorization is the theory that people categorize their environments in order to simplify and understand things. The social environment is categorized into social categories, which are groupings that are meaningful to an individual (Tajfel, 1974). Tajfel (1974) then introduces the idea of *social identity*, which he defines as a part of an individual's self-concept deriving from his or her understanding of their social group membership, paired with the emotional significance of holding that group membership. This emotional significance could be positive or negative, and if it is negative, an individual will attempt to move into another group (Tajfel, 1974). If switching categories is impossible, then the person works to alleviate the negative feelings. Race is an example of social categorization that categorizes people based on their skin color (Tajfel, 1974). Racial identity development models are based on the idea that the affect surrounding a person of color's racial categorization moves from negative to positive over time (Helms, 1995).

For people of color, racial identity development was originally understood as a stage model of development. However, it is now understood as a model with five statuses, in which a person can have high attitudes representing more than one racial identity status at the same time. There are five statuses: Conformity, Dissonance, Immersion/Emersion, Internalization, and Integrative Awareness. Each status describes different attitudes towards the self as a racial being as well as attitudes towards both other people of color and White individuals. The different statuses and attitudes associated with each status signify a particular understanding of race, identity, self-worth, and societal influences (Helms, 1995; Sue & Sue, 2016). Racial identity

development impacts the perception of yourself, members of your race, and members of other races. Thus, it is possible that racial identity attitudes may impact how an individual experiences their workplace.

One aspect of the workplace that is worth examining is the racial climate. Racial climate, or diversity climate, refers to the way in which race is acknowledged and dealt with in the workplace (Mor Barak, Cherin, & Berkman, 1998). Research shows that different races have different perceptions of the racial climate in their organization. Studies have suggested that people of color perceive the racial climate to be more hostile than their White coworkers (Mor Barak, 1998). However, higher levels of diversity climate lead to increased psychological safety, which allows people to feel comfortable expressing themselves in the workplace (Singh, Winkel, & Selvarajan, 2013). Psychological safety has been found to influence a number of job outcomes, including employee engagement, creativity, and commitment (Singh et al., 2013). Mor Barak et al. (1998) found that perceptions of diversity climate influence employee retention, but also found that members of minority racial groups did not respond identically to an organization's diversity climate. It is possible that the difference in perception could be due to differences in individuals' status of racial identity development.

In regards to the workplace, there are some notable differences between the experiences of people of color compared to their White coworkers. A recent study found that almost 25% of people of color experienced stereotyping in the workplace, which is twice the rate of White men and women (Scott et al., 2017). Further, the study also found that 30% of woman of color were passed over for promotion (Scott et al., 2017). White people are four times more likely than Black people to report that racial equality has been achieved (ABC/Washington Post Poll, 2010), while Black people are nearly three times as likely as White people to view racial discrimination

as the cause for race differences in jobs, income, and housing (CNN Opinion Poll, 2008). Racial and ethnic minorities experience more prejudice than do White people, and racial/ethnic harassment and discrimination was negatively related to job satisfaction (Bergman, Palmieri, Drasgow, & Ormerod, 2012). People of color report greater discriminatory incidents at work than White employees (Bell, Harrison, & McLaughlin, 1997; Utsey, Chae, Brown, & Kelly, 2002).

Generally, overt racist acts are culturally uncommon (Nadal, Griffin, Wong, Hamit, & Rasmus, 2014). However, unconscious and subtle forms of racism still exist. Microaggressions are a type of subtle racism. The term microaggression is defined as “brief and commonplace daily verbal, behavioral, and environmental indignities, whether intentional or unintentional, that communicate hostile, derogatory, negative racial slights and insults to the target person or group” (Sue et al., 2007, p. 273). When people of color encounter microaggressions, they may feel immediate distress, and studies show that an accumulation of many microaggressions has a detrimental impact on their well-being (Nadal et al., 2014).

The literature shows that person-organization fit correlates with job satisfaction and turnover intentions. Research also shows that minority employees have higher rates of turnover than their White peers. Based on existing research, it makes sense to look at P-O fit, job satisfaction, and turnover intentions to examine happiness in the workplace. Because of the differences in turnover between White employees and employees of color, it is important to explore the role of racial identity, racial climate, and microaggressions in the workplace.

While there have been studies that have examined different configurations of the constructs of racial identity, microaggressions, person-organization fit, racial climate, job satisfaction, and turnover intentions (e.g. Edwards & Cable, 2009; Griffeth & Hom, 2001; Lyons

et al., 2014; Lyons et al., 2006), there has not been a study that explores how racial identity status affects perceptions of the work environment and work behaviors. This study aims to examine the way in which racial identity status is related to perceptions of microaggressions, the racial climate in the workplace, and perceptions of person-organization fit. Further, the study will examine the relationship between racial identity status, microaggressions, racial climate, and P-O fit and the job outcomes of job satisfaction and job turnover.

CHAPTER II

REVIEW OF THE LITERATURE

The demographics of the United States are rapidly changing, with the population of people of color growing faster than White people in America (US Census Bureau, 2016). As the workforce is becoming more diverse, there is also a large number of voluntary employee turnover for people of color (Hom et al., 2008; Scott et al., 2017, Stevens et al., 2008). While there have been a number of studies on identity development and career outcomes separately, there has been little quantitative research conducted on the relationship between identity development and career achievement (Chrobot-Mason & Thomas, 2002; Osipow & Littlejohn, 1995). Based on the changing racial demographics in the United States, as well as in the workforce, it is important to examine the higher rates of turnover for employees of color by exploring the ways in which their racial identity attitudes may interact with workplace perceptions and vocational behavior.

This chapter will present literature that focuses on person-organization fit, workplace behaviors, racial identity, microaggressions, racial climate, the relationship between race and the workplace, and STEM workplaces.

History of Person-Environment Fit Theories

When we think about a workplace, there are a number of different ways in which one can conceptualize the dynamics and the behaviors that take place. Vocational psychologists and Industrial/Organizational psychologists consistently research topics such as workplace behaviors, the interactions of various systems, organizational climate, and workplace satisfaction. One prominent theory used to understand workplace dynamics is person-environment fit theory, or P-E theory.

P-E fit is a theory that has developed over the 20th century. It emerged from the “trait-and-factor” approach of vocational selection and vocational counseling. The trait-and-factor approach used assessments to understand both an individual’s traits, and the factors in their environment that are required for success (Su, Murdock, & Rounds, 2015). Trait-and-factor theories were dominant in vocational counseling through the 1950s. In the 1960s and 1970s, however, clinicians did not believe that trait-and-factor theories, and their reliance on assessments, were concordant with the increasing popularity of person-centered Rogerian therapy. Clinicians believed that there was an incompatibility between empathic, person-centered therapy, and the more rigid, static, and probabilities-based results of assessments in trait-and-factor theories (Su et al., 2015).

In 1968, Pervin conceptualized performance and satisfaction as a “function of a dynamic process of individual-environment fit” (Pervin, 1968). P-E fit theories posit that “people seek out and create environments that allow them to behaviorally manifest their traits; the extent to which people fit their work environment has significant consequences; and P-E fit is a reciprocal and ongoing process whereby people shape their environments and environments shape people” (Su et al., 2015; Rounds & Tracey, 1990). This theory posits that compatibility between an individual and their work environment occurs when the characteristics of both the individual and the work environment are well matched (Kristof-Brown, 2005).

Contemporary Person-Environment Fit Career Theories

A number of modern career theories have emerged that are considered person-environment fit theories. One such theory is Holland’s theory of vocational personalities and work environments (Holland 1959, 1997). This theory focuses on individuals’ work

personalities, and the tendency of individuals to seek work environments that allow them to use their work personalities, which are a combination of both persistent traits in an individual's vocational self, as well as traits and values that go beyond work (Holland, 1959). Holland proposed six unique vocational types or interests: *realistic*, *investigative*, *artistic*, *social*, *enterprising*, and *conventional* (Holland, 1997; Su et al., 2015).

Realistic types tend to be emotionally stable, reliable, shy, modest, practical, and hold traditional values (Holland, 1997). *Investigative* types are often independent, self-motivated, introspective, analytical, task-oriented, and creative (Holland, 1997). *Artistic* types are also often independent, self-expressive, intuitive, emotional, impulsive, and are drawn to aesthetic qualities (Holland, 1997). *Social* types are humanistic, ethical, concerned for the welfare of others, generous, tactful, kind, and understanding (Holland, 1997). *Enterprising* types tend to be status-conscious, ambitious, competitive, sociable, talkative, optimistic, and aggressive (Holland, 1997). *Conventional* types are often conscientious, persevering, practical, conservative, orderly, systematic, precise, and careful (Holland, 1997). These types are often abbreviated to RIASEC. Holland categorized work environments into the six RIASEC types as well, and suggested that people with certain personalities tend to work in similar fields. Holland also argued that the degree of similarity between a person's personality and beliefs and a person's work environments affects a person's work behavior and attitudes (Holland, 1997). Based on assessments, a code can be generated, which is typically the first three letters of the types that best fit an individual (Nauta, 2010).

The existence of RIASEC codes has been supported by research with a wide variety of individuals: high school students, college students, and working adults (Holland, 1962; Edwards & Whitney, 1972; Holland, 1973; Nauta, 2010). Research has shown that there may be

differences on the impact of race, gender, ethnicity, age, and social class across RIASEC types (Fouad, 2002; Nauta, 2010). Over time, researchers have found that there is less support for a strict hexagonal structure of RIASEC types, and instead think about RIASEC as a circular, circumplex ordering (Nauta, 2012).

The Theory of Work Adjustment (TWA) is another P-E fit theory, and it focuses on the adjustment to the expectations and rewards of work (Dawis, 2005; Dawis & Lofquist, 1984). The TWA is an interactional model, in which employees and the work environment are seen as having a reciprocal relationship with one another that affects length of employment. The major sets of variables used in this model are “abilities and needs to describe work personalities, ability requirements and reinforcement systems to describe work environments, and satisfactoriness, satisfaction, and tenure to describe outcomes of the interaction” (Dawis & Lofquist, 1976). In TWA, the interaction between the personality of individuals and the personality of the workplace is also termed “correspondence” (Rounds, Dawis, & Lofquist, 1987). In TWA, the concept of correspondence is not simply a matching of the work personality and work environment. There is a “corresponsiveness”, or a notion that individuals and environments are described in terms of their mutual responsiveness to one another (Dawis & Lofquist, 1976). Correspondence is a relationship in which the work personality and work environment are mutually responsive to one another. The individual fulfills requirements of the environment, and the environment fulfills requirements of the individual (Dawis & Lofquist, 1976; Rounds et al., 1987). This process of seeking to achieve correspondence with the work environment is called work adjustment (Rounds et al., 1987).

According to TWA, satisfaction in the workplace depends on the correspondence between the reinforcement pattern in the work environment and the individual’s needs (Rounds,

Dawis, & Lofquist, 1987). There is also a certain amount of discorrespondence that individuals may tolerate, and this differs from person to person (Dawis & Lofquist, 1976). Even individuals with similar work personalities may require a different amount of correspondence from the environment in order to remain in it (Dawis & Lofquist, 1976). *Flexibility* is the personality dimension that describes the amount of discorrespondence that a person can tolerate (Dawis & Lofquist, 1976). It is also possible that an individual will act to change their environment in order to increase correspondence. Individual differences in the likelihood of using active change as a mode of adjustment is described as a personality style called *activeness* (Dawis & Lofquist, 1976). When individuals respond to the work environment by changing their own work personality to increase correspondence, this mode of adjustment is called *reactiveness*. There is also a speed at which one moves to increase correspondence, and this speed is called *celerity* (Dawis & Lofquist, 1976). These four dimensions of flexibility, activeness, reactiveness, and celerity represent a way in which personality can be described in the TWA.

The attraction-selection-attrition (ASA) model (Schneider, 1987) is another popular person-environment fit theory. The ASA model is a framework for understanding organizational behavior. It integrates both individual and organizational theories. The ASA framework “proposes that the outcome of three interrelated dynamic processes, attraction-selection-attrition, determines the kind of people in an organization, which consequently defines the nature of the organization, its structures, processes, and culture” (Schneider, Goldstein, & Smith, 1995, p. 748). In ASA framework, the constructs and attributes of interest are personality, attitudes, and values (Schneider et al., 1995; Schneider, 1987). Schneider (1987; Schneider et al., 1995) identified that the goals of the organization articulated (either explicitly or implicitly) by the founder are at the core of the ASA model. The goals, culture, structures, and processes that work

to achieve goals are thought to be reflections of the characteristics and personality of the founder of the organization (Schneider et al., 1995). These goals are thought to determine the type of people who are attracted to, are selected by, and stay with an organization over time (Schneider et al., 1995). For example, a CEO of a company may make community partnerships a central goal of the company, which may appeal to socially responsible individuals and draw them to the company.

The *attraction* process is the first step in the ASA framework. This process describes the fact that people's preferences for particular organizations are based off of an implicit "estimate of the congruence of their own personal characteristics and the attributes of potential work organizations" (Schneider et al., 1995, p. 749). People find organizations differentially attractive based on their implicit judgments of the congruence and fit between those organizations' goals and their own personalities. For example, a teacher may choose to work at School A versus School B based on his or her judgment of the fit between his or her personality and values and how he or she characterizes each school (Schneider et al., 1995).

The next step in the cycle is the formal and informal *selection* process used by organizations in the recruitment and hiring of people with attributes that the organization desires (Schneider et al., 1995). For example, a company may use the services of a headhunter to help recruit appropriate job candidates, and then proceed with a formal interview process once the company reviews the individual's resume. After the individual is interviewed, they may have a formal hiring process through the Human Resources department, before finally becoming employees of the company.

The final step in the ASA cycle is *attrition*. This process refers to the premise that if people do not fit an organization, they will leave (Schneider et al., 1995). For example, an

employee may feel that they do not like the goals of their company, or that they no longer fit into the employee culture, and choose to leave based on this perceived lack of fit.

Overall, the ASA model proposes that the three processes of attraction, selection, and attrition result in organizations that contain people with a set of distinct personalities, values, and goals, and that these personalities are responsible for the unique culture of an organization (Schneider et al., 1995). The ASA framework focuses on predicting the behavior of organizations, not the individuals who comprise that organization (Schneider et al., 1995; Schneider, 1987). Schneider (1987; Schneider et al., 1995) posits that it is through this ASA process that organizations become defined by the type of people by which they are comprised, and that this process also leads to increasing homogeneity within organizations. For employees who experience fit and congruence in the organization, their fit results in improved satisfaction, adjustment, commitment, and job performance (Schneider, 1987; Su et al., 2014). The poorer the fit is between an individual and an organization, the more likely the turnover and attrition (Schneider et al., 1995).

Another P-E fit theory is a multilevel theory of person-environment fit (Kristof-Brown, Zimmerman, & Johnson, 2005). There are four different levels of fit within this model. The first level of fit is *person-job fit*. This refers to the characteristics of individuals as they compare to the job or the tasks that are being performed (Kristof-Brown et al., 2005; Perry, Dokko, & Golom, 2011). The next level is *person-person fit*. This level of fit refers to the fit between members of dyads (Kristof-Brown et al., 2005; Perry et al., 2011). For example, two coworkers may be tasked with developing a project at work, and person-person fit refers to the level of fit between these two individuals. The next level of fit is *person-group fit*. This examines the fit between an individual and members of their work group (Kristof-Brown et al., 2005; Perry et al.,

2011). Finally, *person-organization fit* looks at the compatibility between individuals and entire organizations (Kristof-Brown et al., 2005; Perry et al., 2011). For the purposes of this study, we will be focusing primarily on person-organization (P-O) fit.

Chatman (1989) defines person-organization fit as “the congruence between the norms and values of organizations and the values of persons (p. 339). Chatman’s model is an interactional model, meaning that research must both examine the persons and situations and also measure the reciprocal events of persons on situations and situations on persons (Chatman, 1989). When looking at the individual in the dynamic, it is important to think about individual values. Individual values are defined as enduring beliefs through which a specific mode of conduct or end-state is personally preferable to its opposite (Rokeach, 1973). Chatman’s model proposed that P-O fit could be achieved through the selection process in which organizations accept people whose values match that of the organization. Additionally, Chatman posited that organizations influence members to align their personal values with the values of the organization over time (Chatman, 1989; Su et al., 2015). Chatman believes that for individuals, perceiving a higher level of fit can lead to the following positive outcomes: increased tenure, commitment, satisfaction, and feelings of comfort and competence (Chatman, 1989; Su et al., 2015).

Overall, these theories provide different interpretations of the interaction between an individual and their work environment. Because person-environment fit explores the compatibility between individual characteristics and workplace characteristics, it is possible that an individual’s race may impact their perceptions of fit. Vocational fit impacts employees’ job satisfaction and turnover intentions, and is an important aspect of how individuals assess their workplace climate.

Conceptualizations of Person-Organization Fit

Because compatibility and fit can be conceptualized and defined in many different ways, two clear distinctions have emerged that have helped to clarify compatibility in P-O fit. One major distinction in P-O fit is between supplementary and complementary fit. *Supplementary fit* occurs when a person possesses “characteristics which are similar to other individuals” and which supplement and embellish the environment (Muchinsky & Monahan, 1987, p. 269). In illustrating supplementary fit, Muchinsky & Monahan (1987) use the example of someone who joins a fraternal organization. As Muchinsky and Monahan explain, people join such organizations because they believe that they have similar values and interests as existing members of the organization, and they support the perceived values and activities of the organization. They perceive that they will fit in because they are similar to or like the other people who have these characteristics (Muchinsky & Monahan, 1987). Essentially, supplementary fit is a model of person-person fit, because the people within the environment are defining the environment. The person is making an assessment as to whether or not he or she would be compatible with the people who are already in the organization.

The second type of fit is *complementary fit*. Complementary fit occurs when a person’s characteristics make the environment “whole” or add what the environment is missing (Kristof, 1996; Muchinsky & Monahan, 1987). In this model, the environment is seen as either being deficient or needing a certain type of person in order to be effective. The person and the environment complement one another, with the need or weakness of the environment being offset by the strength of the individual, and vice versa (Muchinsky & Monahan, 1987; Kristof, 1996). An example of complementary fit is dance partners. In order to be successful, one partner

must lead and one must follow. Two leaders or two followers would make for unsuccessful dancers, as they are too similar and would not be able to work in a synchronized way (Kristof, 1996; Muchinsky & Monahan, 1987). This example, however, is more illustrative of a person-person fit. When thinking more about complementary person-environment fit, good fit is based on the “mutually offsetting pattern of relevant characteristics between the person and the environment” (Muchinsky & Monahan, 1987, p. 272). A more concrete example of complementary person-environment fit would be if a new principal begins at a school. She was hired because of her outstanding ability to communicate with parents and connect with students, filling a need in the school, and making the school more whole with her addition by strengthening parent-school ties.

Another perspective of person-organization fit is a distinction between needs-supplies and demands-abilities (Kristof, 1996; Kristof-Brown, Zimmerman, & Johnson, 2005). The *needs-supplies* perspective posits that P-O fit occurs when an organization satisfies an individual’s needs, desires, or preferences (Caplan, 1987; Kristof, 1996; Kristof-Brown, Zimmerman, & Johnson, 2005). In this perspective, organizations supply factors that fulfill the needs of an individual. Conversely, the *demands-abilities* perspective proposes that fit occurs when an individual has the abilities required to meet the needs and demands of the organization (Kristof, 1996; Kristof-Brown et al., 1995). When employees meet organizational demands, demands-abilities fit is achieved (Kristof, 1996). Demands and supplies are likely to be influenced by the underlying characteristics of both organizations and individuals, and may represent distinct areas in which fit or misfit for the organization and the employee may occur (Kristof, 1996).

Kristof (1996) outlines four main ways to define and measure fit based on the previously discussed perspectives of P-O fit. Two operationalizations reflect supplementary fit, a third operationalization stems from the needs-supplies conceptualization, and the fourth operationalization could be interpreted with either supplementary fit or needs-supplies perspectives.

The first, and most frequently used operationalization of supplementary fit is the congruence between individual and organizational values (Chatman, 1989; Judge & Bretz, 1992; Kristof, 1996). This value congruence is a significant and important type of fit because values are relatively enduring, and values are the components of organizational culture that guide employees' behavior (Chatman, 1991; Kristof, 1996; Schein, 1992). For example, both an employee and an organization may value teamwork. Valuing teamwork will most likely persist over time for both the employee and the organization, and this is a congruent value between both parties.

The second operationalization is goal congruence (Kristof, 1996). Researchers have also used goal congruence with organizational leaders and peers in order to operationalize person-organization fit, which is guided by Schneider's (1987) ASA framework. For example, an employee may feel that they no longer agree with the goals of their organization.

The third common operationalization of fit is conceptualized within a needs-supplies perspective. It is defined as "the match between individual preferences or needs and organizational systems and structures" (Kristof, 1996, p. 5). This can be thought of in terms of the theory of work adjustment as well, as it is considering the satisfaction of a person with their work based on whether or not the environment is fulfilling their needs. The TWA has been cited

before as an explanation for person-organization fit (Bretz & Judge, 1994), even though it is most often used to study person-vocation fit (Rounds et al., 1987).

The fourth operationalization describes fit as “a match between the characteristics of individual personality and organizational climate- sometimes labeled as organizational personality” (Kristof, 1996, p. 6). This operationalization could be viewed as both reflecting supplementary fit as well as complementary fit. This operationalization describes congruence and fit between the personalities of the individual and the organization, which reflects a supplementary fit. However, organizational climate is often defined in terms of organizational supplies, and individual personality is often described in terms of needs- thus, making this a needs-supplies, complementary perspective (Kristof, 1996). Overall, there are different conceptualizations of fit and perspectives through which P-O fit can be viewed. There are also various characteristics of individuals that can be examined when thinking about P-O fit, including race and racial identity attitudes, which may impact how an individual perceives the organization.

Measurement of Person-Organization Fit

There are three methods by which P-O fit can be measured as identified by Kristof (1996). The three categories are subjective fit, perceived fit, and objective fit. Each of these approaches assesses some type of discrepancy between the individual and the organization, but each approach uses different methods to assess that discrepancy (Hoffman & Woehr, 2006; Kristof, 1996).

Perceived fit is evaluated when an individual makes a direct appraisal of the compatibility between their personal characteristics and the organization’s characteristics

(Kristof-Brown et al., 2005). For measures assessing perceived fit, individuals are asked to describe themselves and then describe their perceptions of the organization. From these responses, the degree of fit is assessed by examining the discrepancy between the individual's description of his or herself and their description of organizational characteristics (Hoffman & Woehr, 2006). For example, an employee would be asked to describe characteristics about herself, and then would be asked to describe characteristics of the organization. The researcher would assess the perceived fit by comparing the employee's descriptions of herself and the organization and seeing how similar or different each description is to the other. The more similar the descriptions, the higher the degree of fit.

Subjective fit is evaluated when fit is assessed, indirectly, through the comparison of person and environment variables reported by the same person (Kristof-Brown et al., 2005). Subjective fit measures ask an individual how well their characteristics fit with the organization's characteristics (Hoffman & Woehr, 2006). Subjective fit measures are different than perceived fit measures because subjective fit measures do not involve the direct measurement of individual or environmental characteristics. Instead, individuals are assumed to have an understanding of the organization and are asked to explore the similarity between their personal characteristics and their perception of the organization's characteristics (Hoffman & Woehr, 2006). For example, an employee would be asked to assess how well their characteristics fit with their organization's characteristics. As opposed to perceived fit measures, there is no separation between the employee describing their own characteristics and the organizational characteristics. In subjective fit measures, the employee simply describes their perceptions of fit with their organization. An individual may not feel that they fit subjectively for many reasons, including the demographics of the organization. If there are not other employees

who share similar demographics as an individual, such as gender or race, they may rate their subjective fit as lower.

Objective fit is evaluated when fit is determined by comparing person and environment descriptions as reported by different sources (Kristof-Brown et al., 2005). Objective fit measures usually ask one individual to describe their own characteristics, and then ask other members of the same organization to describe the organizational characteristics. The responses about the organization's characteristics are aggregated into a meaningful understanding of the organizational climate, and subsequently the individual's self-characterization is compared to the aggregate description to assess congruence (Hoffman & Woehr, 2006).

Congruence

As previously stated, the most widely used perspective of supplementary fit is value congruence. Broadly, values are defined as general beliefs about the importance of normatively desirable behaviors or end states (Edwards & Cable, 2009). Individuals can draw from their personal values to make decisions and take action. Organizational values specify the norms of how employees should act and behave, and how organizational resources are allocated (Edwards & Cable, 2009). *Value congruence* refers to the similarity between values held by individuals and organizations (Chatman, 1989; Kristof, 1996).

A significant amount of research has shown the importance of congruence between employees and organizations. Notable research suggests that when employees hold values that match the values of their employer or organization, they report being satisfied with their jobs, feel they can identify with their organization, and will seek to maintain their employment (Kristof, 1996; Kristof-Brown, Zimmerman, & Johnson, 2005; Edwards & Cable, 2009).

One of the most commonly researched value congruence outcomes is job satisfaction (Kristof-Brown et al., 2005). *Job satisfaction* can be defined as a “pleasurable emotional state associated with one’s job” (Edwards & Cable, 2009, p. 657). Job satisfaction has been shown to be an important factor in employee’s intentions to stay or leave an organization (Griffeth, Hom, & Gaertner, 2000; Steers & Mowday, 1981). Edwards and Cable (2009) found that job satisfaction was positively related to intent to stay at an organization. In this same study, Edwards and Cable (2009) found that congruence between individuals’ personal values and the values of their organization was positively related to trust. Trust was also positively related to intentions to stay. They also found that trust, attraction, and communication were all positively and significantly related to job satisfaction (Edwards & Cable, 2009). Overall, their findings suggest that value congruence enhances communication and trust between an individual and their organization.

Person-environment congruence refers to the “degree of fit or match between the two sets of variables in producing significant positive (or negative) outcomes” (Muchinsky & Monahan, 1987, p. 268). Congruence has been studied for many years, and there is a large body of research on person-environment congruence (Muchinsky & Monahan, 1987). In 1968, Pervin proposed that good matches between people and environments typically result in high satisfaction, high performance, and little stress (Pervin, 1968). Pervin examined students in an academic setting, and concluded that rather than identifying students as “bright” or “dumb” or of colleges as good or bad, that it is more beneficial to focus on the fit and relationship between the student and the school (Pervin, 1968; Muchinsky & Monahan, 1987).

Researchers have also explored demographic similarity as a component of organizational fit (Ferris & Judge, 1991; Jackson, Brett, Sessa, Cooper, Julin, & Peyronnin, 1991). Jackson et

al. (1991) found that when employees were dissimilar to colleagues, they were more likely to leave their job. However, Jackson et al. (1991) did not examine race when exploring personal attributes of their subjects.

In a study examining recruiter-applicant encounters, Goldberg (2005) explored how race similarity or dissimilarity would impact the assessment of applicant interviews, as well as job offers. Goldberg (2005) used White and African American participants. The results were significant: she found that applicants who had the same race as the recruiter received more favorable interview assessments compared to racially dissimilar applicants. Racially similar applicants also received more job offers. Further, this relationship was stronger for White interviewers than for African American interviewers (Goldberg, 2005). Goldberg (2005) notes that this follows the theory that members of higher-status groups seek to maintain their high status and overvalue members of the in-group (Gaertner & Dovidio, 2000).

Research shows that congruence between an organization and an employee impacts employee job satisfaction and turnover intentions. Race is one way in which congruence can be examined and which may impact workplace experiences. In the following section, employee turnover will be explored in more depth.

Employee Turnover

Research suggests that there are racial differences in voluntary turnover and employee retention in organizations. Studies have shown that the retention rate at jobs for people of color is lower than the retention rate of their White counterparts (Griffeth & Hom, 2001; Hom, Roberson, & Ellis, 2008; Scott et al., 2017). In a study of almost 500,000 employees, Hom et al. (2008) found that people of color had higher quit rates than White employees, with African American's quit rate being 4.96%, Hispanic Americans 4.48%, Native Americans 3.86%, and

Asian American's being 3.69%. White American employees' quit rate was 3.52 (Hom et al., 2008). In a recent study of employees in the technology field, nearly 40% of the participants indicated that unfairness or mistreatment played a role in their decision to leave their company (Scott et al., 2017).

Organizational research has found that people of color encounter less positive racial environments and conditions in organizations than their White counterparts do, and that concerns about racial environments and conditions are of greater importance to employees of color than White employees (Foley, Kidder, & Powell, 2002; Mor Barak, Cherin, & Berkman, 1998). These negative racial experiences have in turn been shown to undermine organizational attitudes of people of color, which can be a precursor of voluntary turnover in organizations (Chrobot-Mason, 2003; Foley et al., 2002; Griffeth & Hom, 2001).

As defined by Mor Barak et al. (1998), *racial climate* or *diversity climate* is defined as the employees' perceptions that an organization adheres to fair personnel practices and the degree that minority employees are integrated into the work environment. Diversity climate and racial climate are similar concepts, however, diversity climate refers to all types of diverse identities: race, gender, age etc. whereas racial climate specifically refers to race. The overall diversity climate in an organization is conceptualized as having two dimensions: personal and organizational (Mor Barak et al., 1998). In the personal dimension, individuals' views and prejudices toward people who are different from them can affect attitudes and behaviors towards others in the organization. The other dimension, organizational, refers to management's policies and procedures specifically affecting minorities and women, such as discrimination or preferential treatment. These organizational policies may affect fairness in treatment of different groups, access to power, and allocation of resources (Mor Barak et al., 1998). Individuals

develop perceptions about an organization's stance on diversity, as well as their own views pertaining to the value of diversity in firms (Mor Barak et al., 1998). Generally, the less prejudicial personal attitudes of individuals and the less discriminatory organizational policies, the more accepting the organization is of diversity (Cox & Nkomo, 1991; Mor Barak et al., 1998).

When addressing diversity, organizations may use a color-blind approach (Sue, 2011). In a color-blind workplace philosophy, an organization "treats everyone the same" regardless of their identities and emphasizes a "democratic" workplace based on equality and meritocracy (Sue, 2011; Thomas & Plaut, 2008). However, this philosophy often leads to marginalized groups feeling excluded (Stevens, Plaut, & Sanchez-Burks, 2008). Employees may be receiving messages that differences are divisive and are to be avoided, that they need to conform to organizational culture, and that the organization does not engage in discrimination because they are treating every employee the same (Sue, 2008). This color-blind attitude often leads to employees who are not a part of the majority to be suspicious and mistrustful of the workplace (Stevens et al., 2008). Researchers have found that when looking at institutional cues (i.e. amount of other employees of color, color-blind diversity approach), African American employee applicants expressed distrust of organizations endorsing a color-blind approach, and anticipated experiencing more biased events at such organizations (Purdie-Vaughns, Davies, Steele, Dittmann, & Crosby, 2008).

McKay et al. (2007) examined the role of diversity climate in predicting turnover and retention, specifically among Black, Hispanic, and White managers across a national retail organization (McKay, Avery, Tonidandel, Morris, Hernandez, & Hebl, 2007).

Along with diversity climate, McKay et al. (2007) also examined the degrees of organizational commitment and turnover intention in their study. *Organizational commitment* is the degree to which a person is emotionally attached to his or her organization (Mowday, Steers, & Porter, 1979). Research has shown that workplace experiences correlate most strongly with organizational commitment, with organizational tenure and job level also having meaningful correlations to organizational commitment (Allen & Meyer, 1990; Mathieu & Zajac, 1990). One example of workplace experience is organizational dependability. *Organizational dependability* is the employees' beliefs that organizational actions are meant to serve the best interest of the employee, and organizations that maintain a pro-diversity climate should be viewed as serving employees' best interests (McKay et al., 2007). Because research suggests that race is more salient to employees of color, employees of color may value organizational policies that mitigate discrimination to a higher extent than their White counterparts (McKay et al., 2007).

Turnover intentions refer to whether employees plan to leave their positions or whether organizations plan to remove employees from their positions, and thus could be voluntary or involuntary (McKay et al., 2007; Tett & Meyer, 1993). In a meta-analysis of employee turnover, turnover intentions were found to be the strongest single predictor of actual voluntary turnover (Griffeth, Hom, & Gaertner, 2000). Tenure and job level are also positively correlated with predicting turnover (Elvira & Cohen, 2001; Griffeth et al., 2000).

Overall, McKay et al. (2007) found that compared to their White male and female and Hispanic counterparts, Black employees' diversity climate perceptions were significantly more associated with turnover intentions. Specifically, Black employees' diversity climate perceptions related to their level of commitment to the organization, which in turn correlated with intentions to exit or remain with the company (McKay et al., 2007). Overall, diversity climate perceptions

were significantly and negatively related to turnover intentions across all racial groups, which means that the higher the degree of diversity climate and pro-diversity attitudes, the lower the turnover intentions and vice versa (McKay et al., 2007). Based on this study, diversity climate perceptions may be useful in understanding employee of color turnover in organizations.

Lyons and O'Brien (2006) examined the role of person-environment fit on the job satisfaction and turnover intentions of African American employees of a high socio-economic status. The researchers found that perceptions of fit were positively correlated with job satisfaction. However, the researchers note that there was significantly more variance in the relationship between perceptions of fit and job satisfaction for African American employees as compared to similar studies of European and White employees, which may underscore differences between workplace perceptions for White employees and employees of color (Lyons & O'Brien, 2006). Both perceptions of fit and job satisfaction were negatively correlated with turnover intentions. When compared to similar studies of European and European American employees, there were no significant differences in the relationships between perceptions of fit and turnover intentions (Lyons & O'Brien, 2006). The researchers also found that perceptions of a supportive racial climate in the workplace were positively related to P-O fit and job satisfaction, and negatively related to turnover intentions (Lyons & O'Brien, 2006).

In a subsequent study, Lyons, Velez, Mehta, & Neill (2014) examined similar constructs, but with a population of lower socio-economic status African-American employees. Lyons et al. (2014) examined the Theory of Work Adjustment (TWA) and job outcomes using a culturally diverse sample. Specifically, the researchers examined the role of racial climate on perceptions of P-O fit, job satisfaction, and turnover intentions. They found that P-O fit was positively related to job satisfaction, and negatively related to turnover intentions (Lyons et al., 2014). The

researchers found that there was a positive relationship between racial climate and job satisfaction when mediated by P-O fit. That is, a more positive racial climate led to higher perceptions of person-organization fit, which in turn led to higher job satisfaction (Lyons et al., 2014). The researchers also found that there was a negative relationship between racial climate and turnover intentions when mediated by P-O fit and job satisfaction, which indicates that as racial climate became more positive, P-O fit and job satisfaction increased, which was followed by a decrease in turnover intentions (Lyons et al., 2014). The researchers also found that the association of P-O fit with job satisfaction strengthened as the racial climate became more positive (Lyons et al., 2014).

Overall, research suggests that White employees and employees of color may perceive the racial climate of an organization differently, and that racial climate may be more salient for people of color than for White people. Diversity climate perceptions are negatively related to turnover intentions and positively related to both person-organization fit and job satisfaction. Because of these differences by race on perceptions of the workplace, it may be helpful to examine racial identity attitudes. The following section outlines racial identity development theory.

Racial Identity

Identity literature has grown from earlier theories on social identity. Tajfel (1974) discusses social categorization and social identity. *Social categorization* is based on the premise that people categorize their environments in order to simplify and understand things. Social categorization is the ordering of the social environment into social categories, which are groupings that are meaningful to an individual (Tajfel, 1974).

Tajfel (1974) then introduces the idea of *social identity*, which he defines as a part of an individual's self-concept deriving from his or her understanding of their social group membership, paired with the emotional significance of holding that group membership. Tajfel follows by explaining that an individual will usually remain a part of this group, or will leave this group and seek membership in a group that can bolster the positive aspects of one's social identity. However, sometimes it is impossible to leave a group. In this case, Tajfel outlines two solutions. The first solution is to change one's interpretation of the attributes of the group so that negative features are reinterpreted to be justified or acceptable. The second solution is to accept the situation for what it is, and engage socially in ways that make the situation more desirable. An important point that Tajfel (1974) reiterates is that no group lives alone in the world, that all groups live amidst other groups in society. Therefore, the ideas of "positive aspects of society" and interpreting group attributes only really acquire meaning in relation to other groups (Tajfel, 1974).

Historically, non-White groups have been marginalized and oppressed in our society (Sue & Sue, 2016;). Institutional and systemic racism continue to bolster ideas of a power structure in which White people are in power and benefit from socialized privilege. Because on these perpetuated ideas, people of color may interpret attributes of their own racial groups to be negative. Tajfel's theory on social identity describes how to make the affect towards a group more positive (Tajfel, 1974). Racial and ethnic identity development models have elaborated on this theory, and outlined distinct developmental processes by which ethnic and racial minorities achieve a nuanced understanding, and ideally an appreciation for, their group. White racial identity development has also been studied, and involves examining privilege and understanding

the role of race in the United States. The following section will outline prominent theories of racial identity development for people of color.

Helms (1990) defined racial identity as “a sense of group or collective identity based on one’s perception that he/she shares a common racial heritage with a particular racial group” (p. 3). Originally, racial identity models were developed to explain the ways in which Black individuals adapted to an invalidating environment in which they were treated as inferior Black racial identity development (Helms, 1995). One of the most influential and widely used theories of Black identity development is Cross’s model of psychological nigrescence, or NRID, originally developed in 1978 (Cross, 1978). In 1990, Helms published her own revised and adapted version of Cross’s NRID model of Black racial identity development. Subsequently, Helms updated her model of Black racial identity development to apply to all people of color (Helms, 1995). This model assumes that all racial beings move through a series of statuses as their racial identity develops, and that the content of these statuses is different for different racial groups (Helms, 1995). These statuses range from least developmentally mature to most developmentally mature. This model involves five statuses. The central theme of this development is to recognize and overcome the psychological outcomes of internalized racism (Helms, 1995). The statuses are as follows: *Conformity (preencounter)*, *Dissonance (encounter)*, *Immersion-emersion*, *Internalization*, and *Integrative Awareness* (Helms, 1995).

The first status is *Conformity*. The aspects of Conformity status are often a direct representation of the dominant/subordinate relationship between cultures in our society (Atkinson et al., 1998; Sue & Sue, 2016). People in the Conformity status are most likely oblivious to their racial group’s sociopolitical history (Helms, 1995). In this status, the individual

is using the external world for self-definition, thus attempting to conform to White standards of merit (Helms, 1995).

This status is characterized by internalized racism, which is a term used to describe how people of color absorb and internalize the constant barrage of racist messages in our society (Sue & Sue, 2016). In the Conformity status, there is a high degree of denial, minimization, and selective perception (Helms, 1995). Conformity is characterized by deliberate idealization of Whiteness and White culture, while disparaging both your own race and other people of color culture through behaviors and attitudes (Helms, 1995). People in the Conformity status are motivated to be accepted by Whites and assimilate, or gain “passage”, into White culture because of the perceived advantages that accompany acceptance (Helms, 1990). In the Conformity status, people may perceive their physical and cultural characteristics that are associated with one’s racial group as negative or something to be avoided and changed (Sue & Sue, 2016). People may attempt to mimic White mannerisms and goals (Sue & Sue, 2016). An individual endorsing Conformity attitudes may also conform to White standards of beauty or Western business attire.

Because people in this status have internalized majority cultural beliefs, including beliefs about people of color, Conformity individuals may ascribe to stereotypes about their own racial group (Sue & Sue, 2016). In order to avoid the psychological pain of identifying with the negative traits of their racial group, Conformity individuals may split themselves from their group. For example, an Asian with a Conformity status may say, “I’m not like *those* Asians; I’m the exception.” (Sue & Sue, 2016). Again, because a person in the Conformity status identifies with White society, they may hold negative attitudes towards other marginalized racial groups as well (Sue & Sue, 2016).

In regards to feelings towards the dominant group, Conformity individuals believe that White cultural, social, and institutional standards are best (Sue & Sue, 2016). White people are often admired and emulated. People may attempt to change their physical appearance to conform to White beauty standards (Sue & Sue, 2016). Negative psychological outcomes such as poor self-concept, low self-esteem, and high anxiety and depression are associated with the Conformity status (Helms, 1990; Sue & Sue, 2016). Research shows that Conformity attitudes are related to higher levels of psychological distress and lower awareness of cultural racism (Franklin-Jackson & Carter, 2007). In a predominantly White organization, research has shown that for Black employees, Preencounter (now Conformity) attitudes were associated with more favorable views (i.e. perceiving less institutional racism) of the racial climate within the organization (Watts & Carter, 1991). For example, in an organization, an employee of color in the Conformity status may perceive the racial climate in the workplace to be affirming of diversity, even if there is racism occurring or microaggressions that are directed towards that individual.

The second status, *Dissonance* (previously called Encounter) begins when an individual encounters a crisis or event that challenges their mode of thinking and then begins to reinterpret the world (Sue & Sue, 2016). This could be a gradual process, during which one encounters more and more information that challenges his or her self-concept. This could also be a rapid shift, especially if something traumatic happens (Sue & Sue, 2016). This status is also described as a conscious awareness that individuals cannot become accepted as part of the “White world”, and this awareness is often incited by an event that makes salient the contradiction of their identity as a person of color and White perceptions of people of color (Helms, 1995; 1990). The Dissonance status involves fluctuating between the recently abandoned Conformity identity and

a new, but still unformed, identity as a person of color. There may be ambivalence and confusion concerning an individual's own racial group commitment and their racial self-definition (Helms, 1995). During this status, there is a sense and awareness that racism does exist and aspects of one's own culture and majority culture are not all good or bad (Sue & Sue, 2016). An individual may feel conflicting feelings between pride in one's own culture as they start to identify positive attributes in their culture, while still feeling shame for who they are (Sue & Sue, 2016).

In this status, the views about their own group's strengths and weaknesses, which had been informed by majority values, begin to be questioned as new information is gathered about their own culture (Sue & Sue, 2016). Stereotypes about other groups are also questioned, and there is more alignment with other marginalized groups. However, the primary concern during the Dissonance status is still with one's own racial group and of resolving conflicts involving the self (Sue & Sue, 2016). In an organization, a person endorsing Dissonance attitudes may begin to notice inequity in the workplace due to race, but may be unsure how to address such issues due to conflicting feelings about their race and the majority race.

The third status is *Immersion/Emersion*. Immersion and Emersion are grouped together in this model, with Immersion referring to immersing oneself in their own ethnic/racial group and Emersion referring to the rejection of White cultural standards and values (Alvarez & Helms, 2001). In the *Immersion/Emersion* phase, an individual psychologically, and physically if possible, withdraws into his or her own racial culture (Helms, 1995). Generalized anger is one identity variable that is characteristic of the Immersion/Emersion phase. Individuals are angry at White people because of their role in racial and systemic oppression, angry at themselves for being part of the system for so long, and angry at other people of color who are not yet aware of

these dynamics (Helms, 1995; 1990). Dichotomous (either/or) thinking characterizes the cognitive development of individuals in the Immersion/Emersion status.

Individuals who endorse Immersion/Emersion attitudes tend to idealize their racial culture and heritage, while denigrating Whiteness and White Western heritage (Helms, 1995; 1990). An individual endorsing Immersion/Emersion attitudes may begin to wear culturally informed clothing or choose to only engage with other people of color within the organization and may feel anger towards White colleagues. An example of coping during the Immersion/Emersion status would be a Black high school student who is a talented musician choosing to quit the school band and hang out with his Black friends because being in band is not accepted as a “Black” behavior (Helms, 1990). Black individuals in the Immersion/Emersion status have been found to have negative views (i.e. perceiving more institutional racism) of the racial climate in a predominantly White organization (Watts & Carter, 1992). Individuals endorsing Immersion/Emersion attitudes may also experience more negative affective reactions to microaggressions and show greater vulnerability to microaggressions, possibly because of the high racial centrality and awareness of racial dynamics in this status (Burrow & Ong, 2010; Torres & Ong, 2010).

The fourth status, *Internalization*, occurs when conflicts between the old and new identities are resolved. The main theme of this status is the internalization of a positive, personally relevant racial identity- an identity that combines both one’s personal identities with an ascribed racial identity (Helms, 1990). An individual’s racial group becomes the primary reference group to which an individual belongs. In the Internalization status, the development of an identity is less reactive (against White racism) and more proactive (Sue & Sue, 2016). It also becomes possible to renegotiate one’s position in respect to White people and White society

because the individual can now face society from a position of strength while holding a stable identity as a person of color (Helms, 1995; 1990). The Internalizing individual can reestablish relationships with White people, and analyze White and Western culture for its strengths and weaknesses, while still rejecting racism and other forms of oppression (Sue & Sue, 2016; Helms, 1990). During the Internalization stage, anti-White sentiments tend to subside as the person becomes more tolerant and self-accepting of their identity as a person of color (Sue & Sue, 2016). In this status, there is more flexibility in thinking; both about one's own race as well as the dominant race (Helms, 1995). An individual endorsing Internalization attitudes may communicate and collaborate more with White coworkers as the anger towards White people subsides and evolves into a more flexible understanding of White culture.

The final status of racial identity development is *Integrative Awareness*. Individuals in this status have developed a positive self-identity, and can now appreciate parts of their own culture as well as of American culture (Sue & Sue, 2016). Conflicts and discomforts of earlier statuses are resolved, and there is an understanding that there are positive and negative aspects of all cultures (Sue & Sue, 2016). In regards to the self, an individual in this status begins to see himself or herself as an autonomous individual who is unique, as a member of their racial group, and as a member of society at large (Sue & Sue, 2016). People endorsing Integrative Awareness attitudes may feel a sense of pride in their group membership, but do not feel that they have to accept every group goal and value (Sue & Sue, 2016). Integrative Awareness individuals are able to empathize with members of their racial group, even if they are reacting in a less adaptive way to oppression (Sue & Sue, 2016).

In this status, there is a capacity to empathize with other marginalized racial groups and to collaborate with people from other racial groups (Helms, 1995). There is an understanding that

learning about values from other cultures is the best way to understand other ethnic groups. In this status, there is an emphasis on supporting all oppressed racial groups, even if they are not similar to the individual's racial group (Sue & Sue, 2016). An employee of color endorsing Integrative Awareness attitudes may feel comfortable with their racial identity and more empowered to enact their own cultural norms in the workplace while also appreciating colleagues for their own unique cultures.

As a Black person, holding more positive attitudes towards Black people is associated with better psychological functioning (Sellers, Linder, Martin, & Lewis, 2006). Having a positive racial identity is related to positive academic beliefs and outcomes, as well as moderating the effect of experiences of racism and discrimination (Chavous et al., 2003; Caldwell, Kohn-Wood, Schmeelk-Cone, Chavous, & Zimmerman, 2004). Researchers have also found direct relationships between racial identity and factors of personal identity such as self-esteem, anxiety, introversion vs. extroversion, and depression (Sellers et al., 2006). However, other studies have found no direct links between racial identity and psychological outcomes, making it difficult to draw conclusions about the exact role that racial identity plays (Sellers et al., 2006). It seems clear, though, that there is some relationship between racial identity and mental health outcomes, although the degree of significance may vary.

Microaggressions

Generally, blatant racism and discrimination seems to be declining in America. It has become much less socially acceptable for Americans to be overtly discriminatory or racist (Dipboye & Colella, 2005, Nadal et al., 2014; Sue, 2010). However, this has been replaced by more subtle prejudice, which is often unconscious even to the perpetrator (Greenwald & Banaji,

1995). People may still hold racial biases, and behave in ways motivated by these unconscious racial biases (Gaertner & Dovidio, 2000). Because racism has become more subtle and insidious in nature, individuals believe that racism no longer exists, and that they certainly are not racist (Sue, 2010; Gaertner & Dovidio, 2000). Subtle forms of racism have been labeled as modern racism (McConahay, 1986), aversive racism (Gaertner & Dovidio, 2000), and racial microaggressions (Sue, Capodilupo, et al., 2007).

Racial microaggressions are “brief and commonplace daily verbal, behavioral, and environmental indignities, whether intentional or unintentional, that communicate hostile, derogatory, negative racial slights and insults to the target person or group” (Sue et al., 2007, p. 273). Sue et al. (2007) identify three forms of microaggressions: microassault, microinsult, and microinvalidation.

A *microassault* is an overt, explicit form of discrimination. This may be characterized by name-calling, avoidant behavior, or purposeful discriminatory actions (Sue et al., 2007). The perpetrator of a microassault may be more conscious of their discrimination, but still hurt the people who are victims of the microassault. An example of a microassault is when a White person gets on the subway and purposefully chooses a seat away from a person of color. The White person may be aware of their decision to sit far from a person of color, but may not understand what the behavior may represent to a person of color. In the workplace, an example may be the purposeful exclusion of employees of color by White employees when planning an event outside of the office.

A *microinsult* is a rude or insensitive communication that demeans a person’s racial heritage or identity (Sue et al., 2007). An example of a verbal microinsult would be asking a person of color, “How did you get this job?” (Sue et al., 2007). An example of a nonverbal

microinsult would be when a supervisor routinely chooses White individuals to speak in a meeting and disregards the attempts of people of color to speak. These actions convey messages that are insulting to people of color, and demean their abilities and contributions (Nadal et al., 2014; Sue et al., 2007).

A *microinvalidation* is a behavior that serves to exclude, negate, and deny the thoughts, feelings, or experiences of a person of color (Sue et al., 2007). For example, a White person saying, “I don’t see color” negates the racial realities that people of color experience every day in our society (Nadal et al., 2014). In an organization, a microinvalidation may be a “color-blind” approach to employee diversity, which implies that individual differences are not important to the organization.

Sue et al. (2007) categorized microaggressions into nine themes that illustrate different ways that microaggressions take place in the lives of people of color. The themes are as follows: Alien in Own Land, Ascription of Intelligence, Color Blindness, Criminality/Assumption of Criminal Status, Denial of Individual Racism, Myth of Meritocracy, Pathologizing Cultural Values/Communication Styles, Second-class Citizen, and Environmental Microaggressions.

A number of studies support that people of color experience a variety of microassaults, microinsults, and microinvalidations, and that these microaggressions impact their lives (Nadal et al., 2014; Rivera, Forquer, & Rangel, 2010; Sue et al., 2007; Sue, Capodilupo, & Holder, 2008; Sue, Bucceri, Lin, Nadal, & Torino, 2009). Specifically, participants report that when they encounter microaggressions, they may feel immediate distress and that an accumulation of a many microaggressions has a detrimental impact on their well-being. Nadal et al. (2014) found that individuals who perceive and experience microaggressions in their lives have negative mental health outcomes. They also found that there are not significant differences in the total

amount of microaggressions that Black, Latina/o, Asian, and multiracial participants experience (Nadal et al., 2014).

Microaggressions occur in many different settings, including the workplace. Generally, most companies have specific policies to address blatant discrimination or harassment, but it is much harder to address less visible microaggressions (Sue, 2010). Research has shown that color-blind attitudes, defined as believing that race does not matter, are negatively related to perceptions of workplace microaggressions, such that when someone holds higher color-blind attitudes, they are less likely to perceive workplace microaggressions (Neville, Lilly, Duran, Lee, & Browne, 2000; Offerman, Basford, Graebner, Basu De Graaf, & Kaminsky, 2014). Further, the researchers found that White individuals endorsed higher color-blind attitudes than people of color (Offerman et al., 2014). Thus, not only do workplace policies make it difficult to address microaggressions, but also employees may not even perceive any microaggressions to be taking place based on their own racial attitudes (Holder & Nadal, 2016).

Root (2003) identified a number of psychological symptoms that emerge for employees who experience chronic microaggressions. Root grouped these symptoms into ten clusters, all of which may affect an individual's well being. The clusters are as follows: anxiety, paranoia, depression, sleep difficulties, lack of confidence, worthlessness, intrusive cognitions, helplessness, loss of drive, and false positives (Root, 2003). Within each cluster are symptoms that make it extremely difficult to go to work, such as feeling a sense of dread, extreme self-consciousness, questioning one's self-worth, and intrusive thoughts (Root, 2003).

A recent study found that almost 25% of people of color experienced stereotyping in the workplace (Scott et al., 2017). The study also found that people of color experienced stereotyping at twice the rate of White men and women, and that 30% of woman of color were

passed over for promotion (Scott et al., 2017). In a study of African American educators, researchers found that experiencing racial microaggressions negatively affected job satisfaction (DeCuir-Gunby & Gunby, 2016). Research has shown that workplace microaggressions create a negative work environment and can have an adverse impact on job performance (Holder, Jackson, & Ponterotto, 2013).

In the workplace, underrepresentation of people of color is a microaggression in and of itself (Holder & Nadal, 2016). While there has been a rise in highly educated employees of color joining the workforce, employees of color account for only 13% of senior leadership and board membership of Fortune 500 companies (Holder & Nadal, 2016). This lack of representation in senior roles conveys a message to people of color that they are less likely to succeed in their organization as compared to White employees (Holder & Nadal, 2016).

Another way in which employees of color experience workplace microaggressions is through stereotyping by their colleagues. One pervasive stereotype of African Americans and Latinos is an assumption of being intellectually inferior (Holder & Nadal, 2016). White colleagues may question an employee of color's expertise, credentials, and ability to perform their job requirements (Torres, Driscoll, & Burrow, 2010). For Asian American employees, a common stereotype is an assumption of intelligence and that they are hardworking but unassertive (Holder & Nadal, 2016). These stereotypes may cause Asian American employees to meet these expectations and display high intellect, which may lead to anxiety in the workplace (Holder & Nadal, 2016).

Employees of color may also face workplace discrimination through exclusionary practices (Holder & Nadal, 2016). Employees of color often experience exclusion from

meetings, social gatherings, and networking events. These exclusionary practices may contribute to feelings of invisibility and a perception of being less valuable for employees of color.

Overall, microaggressions in the workplace contribute to a range of negative psychological outcomes. Experiencing microaggressions also decreases work productivity and leads to lower job satisfaction. Racial identity attitudes may also impact perceptions and experiences of microaggressions due to the varying degrees of racial centrality and racial awareness in the statuses. Because of the negative impact of microaggressions on employees of color, it is important to further examine the role of microaggressions on workplace outcomes.

People of Color's Experience in the Workplace

People of color in the workplace may experience the work environment in different ways than do their White counterparts (Emerson & Murphy, 2014; Offerman et al., 2014). When thinking about race in the workplace, it is important to consider racial identity status and how it may impact the way in which a person of color interacts with their coworkers and their organizational environment.

Within an organization, there will be many subgroups that represent different demographic groups: race, ethnicity, gender etc. (Hogg & Terry, 2000). There are also specific subgroups within an organization. For example, the sales department of an organization is a subgroup housed within the superordinate group (Hogg & Terry, 2000). In order to have harmonious relations between different subgroups, researchers have found that it is important to make salient both loyalty to and identification with the subgroup and the superordinate group (Hogg & Terry, 2000; Hornsey & Hogg, 2000).

Organizations often have a membership that is diverse in terms of different demographics and identities. The intragroup dynamics that play out in an organization are influenced by the sociodemographic structure of society (Hogg & Terry, 2000). Societal issues such as conflict, disadvantage, marginalization, and racism can arise within organizations (Hogg & Terry, 2000; Williams & Sommer, 1997). Minority status within an organization depends on the composition of the organization and who is in the majority. For example, if an organization were comprised of a majority of White individuals, people of color would be the minority group. When minority status is salient within an organization, members of the minority group are more likely to be perceived and classified in terms of the minority status, which could garner stereotypical treatment from members of the dominant group (Hogg & Terry, 2000)

In 1994, Helms and Piper published one of the only papers on implications of racial identity in vocational psychology. The authors note that on the surface, racial identity is not necessarily predictive of career variables such as needs, work values, or major (Helms & Piper, 1994). However, racial identity becomes an important factor in individual vocational behavior when racial salience is examined. Racial salience is defined as “the extent to which a person conceives (correctly or incorrectly) of race as a significant definer of one’s work options” (Helms & Piper, 1994, p. 129). An example of racial salience for a Black individual when making a career decision may be a belief that certain occupations carry more clout in the Black community or that certain jobs are only for White people (Helms & Piper, 1994). The authors posit that racial identity and racial salience may be mediators between objective racial circumstances and stressors and the person’s vocational behavior in response to these circumstances. Helms and Piper (1994) theorize that for Black people who believe that racial segregation throughout history has restricted Black people’s access to occupations for which they

are qualified, Black individuals in the Preencounter (now Conformity) or Internalization stage may still pursue this occupation anyways. For the Preencounter (Conformity) individual, this might be because the individual does not believe that discrimination could happen to them, whereas for the individual in the Internalization stage, they may be because they are consciously choosing to defy racial stereotypes and resist oppression (Helms & Piper, 1994).

In regards to vocational development, two studies examined links between racial identity and vocational development. Manese (1984) found that Preencounter and Internalization attitudes were significantly positively correlated with vocational identity foreclosure. Manese also found that Immersion/Emersion attitudes predicted more mature career development attitudes (Manese, 1984). In a study of the relationships among Black students' tolerance of undecidedness, vocational identity foreclosure, and racial identity attitudes, Thompson (1985) found that Preencounter attitudes were related to low tolerance of career undecidedness. Encounter attitudes were related to low levels of identity foreclosure (Thompson, 1985).

Lovelace and Rosen (1996) found that Black employees reported lower levels of P-E fit compared to their European American and Latino/a peers. The authors also found that perceptions of fit were positively correlated with job satisfaction and negatively correlated to turnover intentions, which is consistent with the TWA.

Chrobot-Mason and Thomas (2002) proposed a framework to describe the interaction between individual and organizational racial identity development, and the ways in which these interactions may impact employee of color experiences. This framework uses the racial identity development model previously discussed, as well as an ethnic identity development model proposed by Phinney (i.e. Helms, 1990; Phinney, 1996) when characterizing stages of identity development. The researchers identified four different types of relationships between the

employee and the organization based on the employee and organization racial identity stage: negative parallel, regressive, progressive, and positive parallel (Chrobot-Mason & Thomas, 2002). These types of relationships are modeled from Helms's (1984) work on interactions between racial minority and majority members' relationships in therapeutic environments, and the researchers suggest that the organization stands in for the therapist, and the employee as the client in Helms's model (Chrobot-Mason & Thomas, 2002). Generally, the researchers posit that low-racial identity organizations do not have systems in place to address issues of equity and diversity, and employees of these organizations do not receive a message that issues of diversity are important (Chrobot-Mason & Thomas, 2002). Conversely, organizations that have a higher racial identity clearly demonstrate their value of diversity, and send messages to their employees that diversity is an asset to be embraced (Chrobot-Mason & Thomas, 2002). The following section will outline the four types of organizational and individual identity relationships.

The first type of relationship is a *negative parallel relationship*. This is a relationship in which both the organization and the employee have a low racial/ethnic identity. The researchers suggest that a low-racial identity organization has a limited approach to diversifying, and organizational climate and policies suggest to employees of color that success is attainable only through assimilation (Chrobot-Mason & Thomas, 2002). Low-identity individuals accept the expectation to assimilate and strive to fit in with coworkers (Chrobot-Mason & Thomas, 2002).

The second type of relationship is a *regressive relationship*. In this relationship, the employee has a high racial identity but the organization has a low identity (Chrobot-Mason & Thomas, 2002). The researchers propose that high-identity employees working in low-identity organizations are likely to experience dissatisfaction. Employees in regressive relationships are unable to fully contribute to the organization because of the lack of value on diversity.

The third type of relationship identified by the researchers is a *progressive relationship*. In a progressive relationship, the organization is high in racial identity and the employee is low. In this type of organization, leadership seeks opportunities for employees to contribute uniquely and tries to eliminate barriers for their employees (Chrobot-Mason & Thomas, 2002). Employees of color with low racial identity may be uncomfortable in a high-identity organization because it may feel more comfortable to assimilate within an organization. However, a high-identity organization can serve as a starting point for employees to explore their racial identity and value their unique point of view because of their racial or ethnic identity (Chrobot-Mason & Thomas, 2002).

Finally, the fourth type of relationship identified by Chrobot-Mason & Thomas (2002) is a *positive parallel relationship*. This is an ideal relationship in which both the organization and its employees have achieved a high racial identity. This results in a positive fit between organizations and their individual members, and provides the opportunity for each party to motivate the other to value differences and create opportunities for all members to contribute to the workplace (Chrobot-Mason & Thomas, 2002).

Based on research that shows that negative perceptions of workplace racial climate impact person-organization fit, job satisfaction, and turnover, it seems likely that a positive parallel relationship between workplace and employee racial identity would yield the most positive results.

Science, Technology, Engineering, and Mathematics: STEM Fields and Workplace Environments

Science, technology, engineering, and mathematics, or STEM, fields are incredibly important to our modern society and have become increasingly important in maintaining the United States' status as a competitive force in global economics and growth (U.S. Department of Labor, Employment, and Training (DOLETA), 2007). While the acronym STEM is specific, there is not a standard definition of what constitutes a STEM job. Most researchers choose to define STEM fields as including the natural sciences (physical, biological, and agricultural sciences), engineering and engineering technologies, computer and information sciences, and mathematics. Some research also includes professional support occupations that are within the fields of science, mathematics, engineering, and physical sciences as STEM jobs in addition to occupations directly doing STEM work (Chen & Weko, 2009). Social scientists are usually not included when defining STEM occupations (e.g. NSF, 2017; Langdon, McKittrick, Beede, Khan, & Doms, 2011; Chen & Weko, 2009). The National Science Foundation has identified over 150 college majors that are considered STEM majors (NSF, 2019). With changes in technology, fields that may be less obvious are also included in STEM. For example, with new computer technology, mechanics in the trucking industry now deal with sophisticated computer programs (DOLETA, 2007).

Economists have estimated that approximately 50% of U.S. economic growth is due to increases in technological innovation (National Science Foundation, 2004; U.S. Chamber Foundation, 2013). Another recent estimate is that while only about 5% of the U.S. workforce is employed in STEM fields, STEM fields account for more than 50% of the economic growth (Babco, 2004). In the past 10 years, STEM jobs have had three times as fast of growth as in non-

STEM fields (Langdon et al., 2011). In 2009, President Barack Obama launched the Educate to Innovate initiative to help American students rise to the top in global measures of math and science achievement, involving the business community and designating funding for STEM education (Obama White House Archives, 2013). While President Obama was in office, he also established the White House Science Fair to celebrate students presenting projects across a range of STEM fields, highlighting the importance of STEM education and innovation in the United States (Obama White House Archives, 2016). The past presidential commitment to increasing STEM education, in both K-12 and higher education, demonstrates the importance of STEM to the United States.

Overall, there are 17.3 million people employed in STEM fields in the United States (Pew Research Center, 2018). STEM employment has grown 79% over the past 28 years. However, Black, Latinx and Asian employees are still underrepresented in the field, with approximately 9% of STEM employees identifying as Black, 7% identifying as Latinx, and 13.5% identifying as Asian compared to 70% who identify as White (National Science Foundation, 2017; Pew Research Center, 2018). In a recent study on employees who have left jobs in technology, nearly 40% reported leaving due to unfair behavior or treatment in their workplace (Scott, Klein, & Onovakpuri, 2017). This same study found that 25% of Black and Latinx employees and 15% of Asian employees experienced stereotyping at their previous job. This study also found that stereotyping and bullying were found to be statistically significant predictors of job turnover (Scott, Klein, & Onovakpuri, 2017). Another recent study found that 62% of Black employees, 44% of Asian employees, and 42% of Latinx employees experienced racial/ethnic discrimination in STEM jobs as compared to 13% of White employees (Pew Research Center, 2018).

One study found that in STEM fields, 84% of Black employees, 64% of Asian employees, and 59% of Latinx employees say it is extremely important to have racial diversity in the workplace as compared to 49% of White employees. 60% of Black STEM employees also believe that their workplace is paying too little attention to increasing racial and ethnic diversity in the workplace, while Asian, Latinx, and White employees think that the right amount of attention is being paid to increasing diversity (Pew Research Center, 2018). It is clear that in STEM fields, different racial groups perceive the workplace differently from one another and also have varied perspectives on the importance of diversity in the workplace.

In examining the underrepresentation of people of color in STEM fields, one popular theory is that the lack of diversity in STEM fields is due to a “pipeline problem”, which refers to the ways in which some people are funneled to STEM careers while some people face systemic barriers and biases in the field (Grossman & Porche, 2013). The pipeline model, developed by the National Science Foundation in the 1970s, is a model that describes the linear series of steps necessary to become a scientist or engineer and also depicts the number of scientists and engineers required per year to keep the U.S. competitive in these fields (Metcalf, 2010). There is also a model of the pipeline in reference to the inclusion of more women and marginalized groups in STEM fields. The idea of a “leaky pipeline”, or a pipeline flaw in which people leave the field at different points in their education, has persisted for many years (Metcalf, 2010; Garbee, 2017). However, the pipeline model has a very narrow definition of success in a STEM field: a PhD in a STEM field (Garbee, 2017). This definition of success does not account for systemic barriers in place in our education system. There are a number of reasons why people of color may leave STEM classes or majors throughout their education. Strayhorn (2010) identified three main academic barriers to being in a STEM field in a sample of African American men:

negative perceptions/stereotypes about people of color, lack of same race peers in classes/labs, and negative interactions with same race peers in other disciplines. Grossman and Porche (2013) found that in a study with adolescents, microaggressions, responses to microaggressions, and perceived gender- and race-based support were barriers to STEM success. Overall, these barriers may impact the likelihood that people of color pursue careers in STEM fields.

It is clear that people of color are underrepresented in STEM fields and that people of color in STEM fields have also experienced unfair treatment, stereotyping, and discrimination at higher rates than their White counterparts. While there are numerous studies and articles about people of color in undergraduate and graduate STEM programs, there is a dearth of academic research on people of color in the STEM workforce (Metcalf, 2010).

Statement of the Problem

In the United States, there is a large discrepancy between employee turnover rates for people of color and turnover rates for White people. Studies have shown that the retention rate at jobs for people of color is lower than the retention rate of their White counterparts (Griffeth & Hom, 2001; Hom, Roberson, & Ellis, 2008; Scott et al., 2017). Employees of color are quitting their jobs at a much higher rate than White employees, ranging from rates of 3.69% to 4.96% as compared to White employees at 3.52%, and research suggests that employees of color experience the workplace in a very different way than White employees (Emerson & Murphy, 2014; Hom, et al., 2008). One possibility for differences in workplace experience is perceptions of person-organization (P-O) fit. Higher perceptions of person-organization fit are positively related to job satisfaction and negatively related to turnover intentions, which implies that P-O fit may be a good indicator of happiness in the workplace (Lyons & O'Brien, 2006). Another aspect

of P-O fit is the way one perceives the racial climate in the workplace, which can impact job satisfaction. One important individual characteristic in a diverse workplace is racial identity attitudes, as these attitudes often impact the perception of societal cues and workplace experiences (Helms, 1995; Purdie-Vaughns et al., 2008). One such workplace experience is the experience of microaggressions, which are a form of discrimination and are prevalent in the workplace for people of color (Holder & Nadal, 2016; Sue & Sue, 2016). Differences in racial identity attitudes and the perception of microaggressions may impact an employee's understanding of their own fit in an organization, their job satisfaction, and their perception of the racial climate (DeCuir-Gunby & Gunby, 2016).

While there have been studies that examine these constructs in different configurations (i.e. P-O fit and satisfaction; racial climate and job satisfaction; P-O fit and racial climate etc.), racial identity attitudes of employees of color have been largely absent in vocational research. There have also been many studies on STEM education and STEM majors, but very little research on employees in STEM fields, where the underrepresentation of marginalized groups is stark. The present study aims to better understand the disparities between turnover rates for employees of color and White employees specifically in STEM fields by exploring the relationship between racial and workplace variables. Specifically, this study will explore the relationships between perceptions of microaggressions, perception of racial climate and the workplace variables of job satisfaction, turnover intentions, and person- organization fit. Further, the study aims to understand how racial identity attitudes may impact the relationships between the workplace variables. Based on the exploration of the extant literature, the following hypotheses will be tested.

Hypotheses

Hypothesis 1: Perceiving a positive racial climate is linked to higher job satisfaction, and conversely perceiving a less positive racial climate is linked to lower job satisfaction (Holcomb-McCoy & Addison-Bradley, 2005; Lyons et al., 2014). Research has shown that a negative racial climate leads to higher turnover intentions, and that a positive racial climate leads to less turnover intentions (Chrobot-Mason & Aramovich, 2013; McKay et al., 2007; Sue, Lin, & Rivera, 2009; Holder & Vaux, 1998). It is also predicted that the findings of this study will be consistent with prior research that has shown that person-organization fit leads to job satisfaction and lower levels of turnover intentions (Lyons & O'Brien, 2006; Lyons et al., 2014; Edwards & Cable, 2009; Lovelace & Rosen, 1996; Griffeth, et al., 2000; Steers & Mowday, 1981).

Hypothesis 1: Therefore, for the overall sample, it is predicted that measures of person-organization fit, job satisfaction, and racial climate will have a statistically significant positive relationship with one another, while turnover intentions will have a statistically significant negative relationship with person-organization fit, job satisfaction, and racial climate. This hypothesis will be tested using bivariate correlations.

Hypothesis 2a: Having a higher perception of microaggressions is shown to have negative mental health outcomes, including anxiety, depression, and low self-esteem (Sue et al., 2007). In the workplace, microaggressions lead to a number of detrimental mental health symptoms, including paranoia, anxiety, and feelings of worthlessness (Root, 2003). People of color have described their work environments as hostile and invalidating due to microaggressions (Purdie-Vaughns et al., 2008; Sue, 2011). As racial climate is the way in which race is addressed in the workplace, it is likely that a higher amount of microaggressions would lead to a diminished view of workplace racial climate. It is also likely that because

microaggressions make the workplace feel like an invalidating environment, microaggressions would lead to lower levels of P-O fit, lower levels of job satisfaction, and higher levels of turnover intentions.

Hypothesis 2a: Thus, it is predicted that for people of color, measures of person-organization fit, job satisfaction, and racial climate will have statistically significant positive relationships with one another. Turnover intentions and experiences of racial/ethnic microaggressions will be negatively related to person-organization fit, job satisfaction, and racial climate. This hypothesis will be tested using bivariate correlations.

Hypothesis 2b: Previous research has shown that individuals endorsing greater Conformity status attitudes do not necessarily have an understanding of the racial dynamics around them and their race is less salient for them (Franklin-Jackson & Carter, 2007). Research has also shown that individuals in the Conformity status have more favorable perceptions of racial climate (Watts & Carter, 1991). Therefore, individuals high on Conformity attitudes may not perceive issues in the racial climate of their organization, nor would they perceive their race to be a personal characteristic that does not fit with their organization. Individuals in the Internalization status are able to have more flexibility in their thinking in regards to race and racism, and may have a better sense of self (Helms, 1995; Sue & Sue, 2016). Internalization individuals have an integrated understanding of the world around them and with this understanding, do not find as much fault with the racial climate and feel like they fit.

Research has shown that individuals who endorse Dissonance attitudes may experience anxiety or confusion about their racial group membership as race becomes more salient, and individuals in the Immersion status are often hypersensitive to race, idealize their own racial group membership, and distrust White people (Helms, 1995; Sue & Sue, 2016). Research also

suggests that individuals who endorse Immersion attitudes perceive the racial climate less favorably than employees in other statuses (Watts & Carter, 1991). Thus, individuals endorsing Dissonance and Immersion attitudes may be very aware of the racial dynamics in an organization and their fit as a person of color within an organization.

Hypothesis 2b: It is predicted that racial identity attitudes will be significantly related to the workplace measures of P-O fit, job satisfaction, turnover intentions, racial climate, and REMS. Specifically, Conformity and Internalization attitudes will be positively correlated with P-O fit, job satisfaction, and racial climate while negatively correlated with turnover intentions and REMS. Dissonance and Immersion attitudes will be positively correlated with turnover intentions and REMS while negatively correlated with P-O fit, job satisfaction, and racial climate. This hypothesis will be tested using bivariate correlation.

Hypothesis 3: White employees think that it is less important to have racial diversity in the workplace as compared to Asian, Black, and Latinx employees (Pew Research Center, 2018). Research has also shown that people of color encounter less positive racial environments and conditions in organizations than their White counterparts do, and that concerns about racial environments and conditions are of greater importance to employees of color than White employees (Foley, Kidder, & Powell, 2002; Mor Barak, Cherin, & Berkman, 1998).

Hypothesis 3: It is predicted that White people will have statistically significantly higher scores on the perceptions of racial climate scale than people of color. This hypothesis will be tested using a one-way ANOVA with race as the independent variable and P-O fit, job satisfaction, racial climate, and turnover intentions as the dependent variables.

Hypothesis 4a: Research has shown positive associations between racial climate and job satisfaction and negative associations between racial climate and turnover intentions (Holcomb-

McCoy & Addison-Bradley, 2005; Lyons et al., 2014). Research has also shown that perceptions of microaggressions have negative mental health outcomes and make workplaces feel hostile and invalidating for the individuals on the receiving end of microaggressions (Purdie-Vaughns et al., 2008; Sue, 2011).

Hypothesis 4a: Based on prior research is predicted that there will be a direct positive association between racial climate and job satisfaction and P-O fit, and a direct negative association between racial climate and turnover intentions. There will be a direct positive association between REMS and turnover intentions, and a direct negative association between REMS and job satisfaction and P-O fit. This hypothesis will be tested using path analysis to examine direct relationships between the exogenous and endogenous variables.

Hypothesis 4b: Prior research has examined racial identity attitudes as predictor variables. In a study of African American college students at predominantly White institutions (PWIs), Neville, Heppner, and Wang (1997) examined how racial identity attitudes were predictors of general stressors, culture-related stressors, and coping styles. The researchers found that individuals with higher Immersion attitudes were related to negative coping and problem-solving behavior. They also found that higher Immersion attitudes were the only significant predictor of general stressors for these students.

Racial identity attitudes have also been examined as predictor variables when examining direct, indirect, and interaction relationships between variables. Sellers et al. (2003) explored the relationships between racial identity attitudes, racial discrimination, perceived stress, and psychological stress in a group of African American young adults. The authors of this study used the Multidimensional Model of Racial Identity (Sellers et al., 1998) to assess racial identity attitudes, and specifically examined the attitudes of racial centrality and public regard. The

authors examined multiple pathways and explored direct, indirect, and moderation relationships between racial identity attitudes and the other constructs. Sellers et al. (2003) found that individuals with higher racial centrality had lower levels of psychological distress. The authors also found that higher levels of racial centrality were related to higher perception of discrimination. They also found that there was a moderating effect of racial centrality on the relationship between discrimination and psychological distress such that for those with high racial centrality, greater experiences of discrimination were not associated with greater psychological distress but for those with low racial centrality, there was a positive association between experiences of discrimination and psychological distress. The authors posit that this shows that racial centrality is a protective factor for those who experience discrimination.

In another study exploring the relationships between racial identity attitudes and perceived racial discrimination in African American college students, Sellers and Shelton (2003) found that racial centrality was positively associated with perceptions of discrimination. This study also found that racial centrality moderated the relationship between perceptions of discrimination and psychological distress by acting as a buffer for those with higher racial centrality. Public regard also acted as a moderator between perceptions of discrimination and psychological distress such that individuals with low public regard (i.e. believed that African Americans were not perceived positively) experienced lower psychological distress due to discrimination.

Research indicates that individuals endorsing greater Conformity status attitudes do not necessarily have an understanding of the racial dynamics around them and that those individuals may have more favorable perceptions of racial climate than those with other attitudes (Franklin-Jackson & Carter, 2007; Watts & Carter, 1991). Prior research indicates that individuals

endorsing higher Dissonance attitudes may feel anxiety or confusion about their racial group as race is becoming more salient to those individuals (Helms, 1995; Sue & Sue, 2016). Individuals with higher Immersion attitudes are often hypersensitive to race, distrust White people and perceive the racial climate less favorably than employees endorsing other statuses (Helms, 1995; Sue & Sue, 2016, Watts & Carter, 1991). Individuals in the Internalization status are able to have more flexibility in their thinking in regards to race and racism, and may have a better sense of self (Helms, 1995; Sue & Sue, 2016). Thus, individuals endorsing higher Dissonance or Immersion attitudes may be more aware of or upset about the racial climate in the workplace and may perceive more microaggressions than those with higher Conformity or Integration attitudes.

Hypothesis 4b: It is predicted that the relationships between racial climate, REMS, and workplace outcomes will be moderated by racial identity attitudes. As stated, prior studies have positioned racial identity attitudes as both predictor and moderator variables. Specifically, in regards to racial climate, it is predicted that the relationships between racial climate and workplace outcomes will be strengthened by higher Dissonance and Immersion attitudes and attenuated by higher Conformity and Internalization attitudes. In regards to REMS, is predicted that the relationships between REMS and workplace outcomes will be strengthened by higher Dissonance and Immersion attitudes and attenuated by higher Conformity and Internalization attitudes.

These hypotheses will be tested using path analysis, a type of structural equation modeling, which will identify the direct and interaction relationships between the variables (see Figures 1-3 for hypothesized path models). Hypothesis 4a will be tested by examining the direct relationships in the path model, while Hypothesis 4b will examine the interaction relationships in the model. Because the racial identity attitude model is model in which a person can have high

scores on more than one status at a time as opposed to a stage model in which a person would have a high score indicating that they fall into one stage only, the four racial identity attitude statuses will be simultaneously included in the path model.

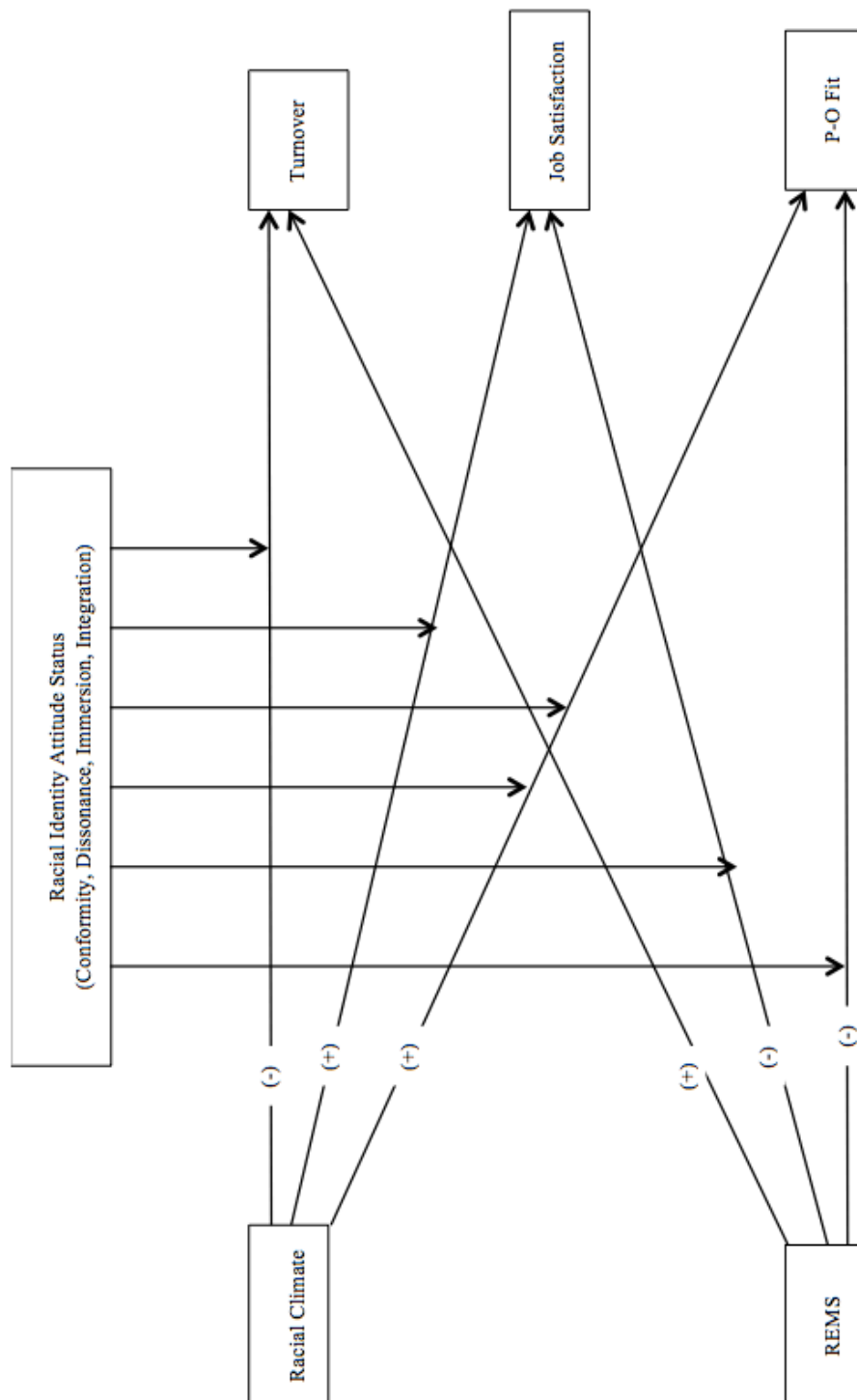


Figure 1. Hypothesized path model with hypothesized direct associations. REMS = Racial/ethnic microaggressions; P-O fit = person- organization fit.

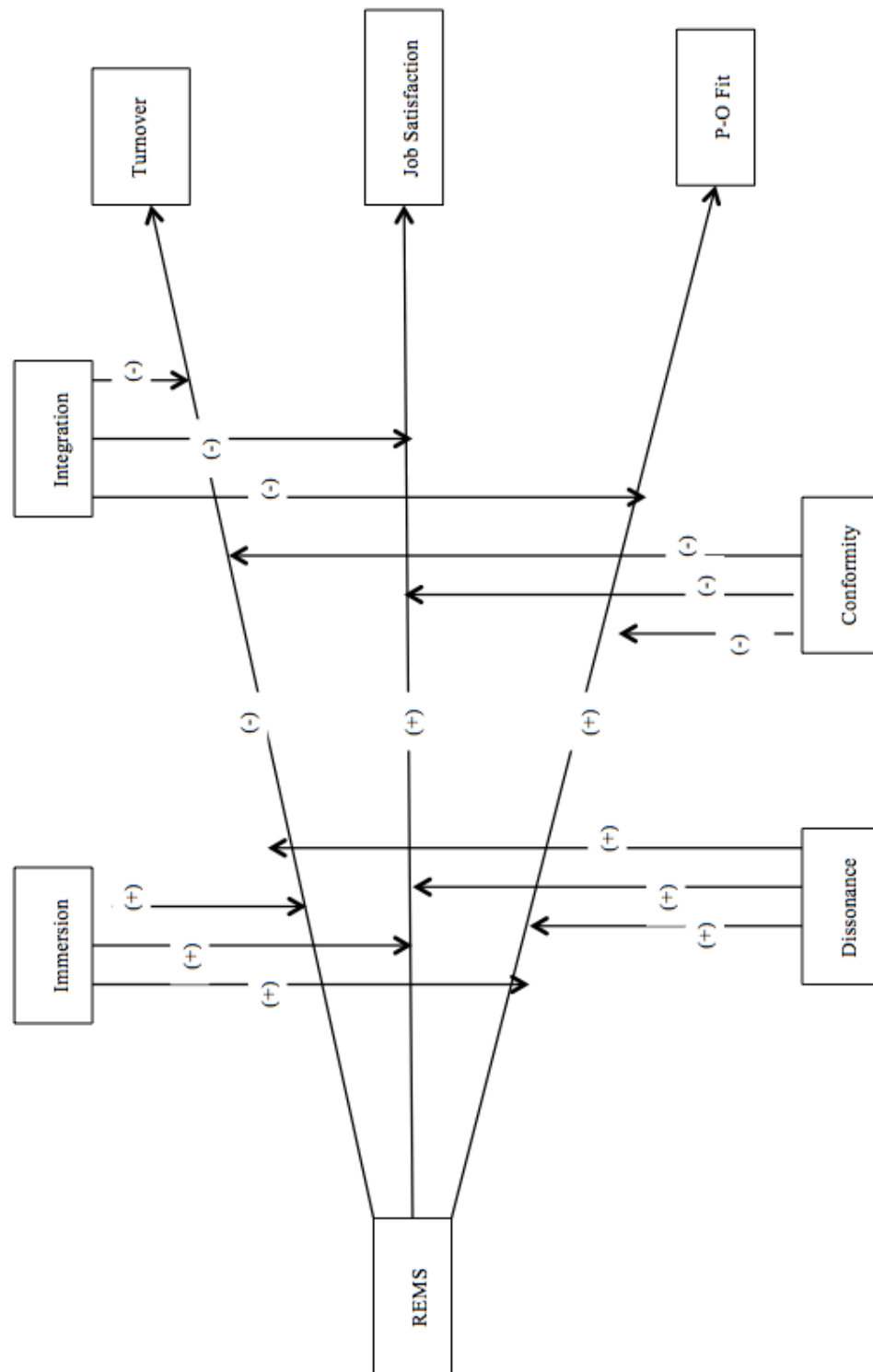


Figure 2. Hypothesized path model with hypothesized direct associations and interaction associations, with REMS as the predictor variable. REMS = Racial/ethnic microaggressions; P-O fit = person - organization fit.

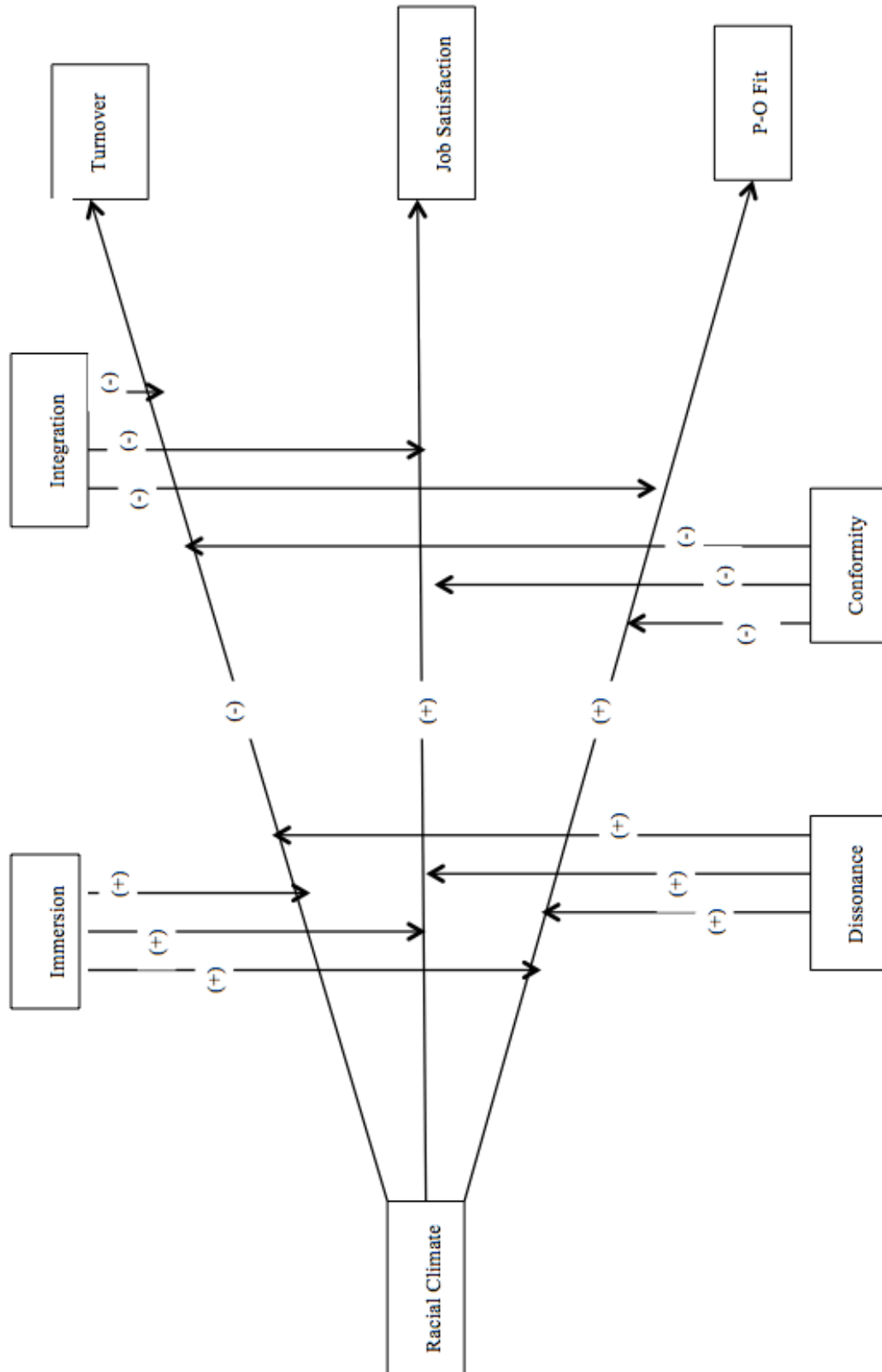


Figure 3. Hypothesized path model with hypothesized direct associations and interaction associations, with racial climate as the predictor variable. P-O fit = person- organization fit.

CHAPTER III

METHOD

This study was designed to examine the workplace experiences of people of color in STEM (Science, Technology, Engineering, Math) fields. Specifically, the study was designed to examine the ways in which an individual's racial identity attitude statuses are related to their experiences of microaggressions and how it impacts their perception of supplementary person-organization fit in the work place and perceptions of racial climate. Further, the study examined individuals' job satisfaction and turnover intentions. White employees in STEM fields were also included in the sample in order to compare workplace experiences and perceptions between White people and people of color.

Participants and Recruitment

Participants were 485 employees in STEM fields recruited using social media and email to participate in an online survey. The participants were also invited to participate in a raffle for one of two \$50 gift cards to help incentivize participants. Inclusion criteria were being 18 years of age or older, working either full time or part time, identifying as an employee in a STEM field, and living in the United States.

Procedure

Participants were recruited in multiple ways including an emailed survey link and by posting on social media sites, such as Facebook, LinkedIn, and Tumblr. Participants were also recruited through universities and national organizations. The study was conducted online using Qualtrics, an online survey tool. Participants first read an informed consent form (Appendix A) and indicated their consent to participate by clicking a button to move them onto the next part of

the study. Participants then completed the following scales in a randomized order limiting any order effects that may occur based on the order in which participants complete the measures: Job Satisfaction, Turnover Intentions, Person-Organization Fit, and Racial Climate. After completing these measures, participants were asked to choose whether they identify as a person of color or a White person. People of color proceeded on to the People of Color Racial Identify Attitudes Scale (PRIAS) and the Racial and Ethnic Microaggression Scale (REMS). All participants then completed demographics questions, asking participants to share aspects of their identity such as gender, age, salary range, the size of their workplace, whether they work part time or full time, and whether they are a member of the racial/ethnic minority or majority in their organization.

When participants completed the measures, they saw a message thanking them for their participation and inviting them to enter a drawing for one of two \$50 Amazon gift cards. Participants were redirected to a separate site if they chose to participate and their personal information was not linked to their survey responses. The Teachers College Institutional Review Board approved the study.

Instruments

Perceptions of Fit. Perceptions of fit were measured using Saks and Ashforth's (1997) measure of employees' perceptions of fit (Appendix B). This is a five- item measure used to assess fit in the workplace. This measure has two subscales: person-job fit and person-organization fit. An example item from the person-job fit subscale is: "To what extent does the job fulfill your needs?" An example item from the person-organization fit subscale is: "To what extent are the values of the organization similar to your own values?" Each item uses a 5-point Likert scale, with 1 = *to a very little extent* and 5 = *to a very large extent*. The responses are then

summed for a total score. High scores on this scale indicate that participants report a high level of fit, and low scores indicate a lower level of fit. This measure incorporates items that examine value congruence, as value congruence is the most common measure of supplementary fit. In previous research with African Americans, the validity of the Perceptions of Fit scale was supported by a positive correlation with job satisfaction, with Perception of Fit items yielding a Cronbach's alpha of .88 (Lyons et al., 2014). In the present study, the reliability coefficient for the person-job fit subscale is .89 and for person-organization fit is .92.

Racial Climate Perception of racial climate was measured using an altered version of the Racial Climate Scale (RCS; Watts & Carter, 1991; Appendix E). This is a scale that measures individual, psychological perception of racial climate as opposed to aggregate data on racial climate in an organization. As originally developed, the RCS assesses Black employees' perceptions of racial climate. For the purposes of the current study, the word "Black" in the RCS will be changed to "People of color". The scale consists of 18 items that measure workplace incentive systems, hiring practices, and interpersonal interactions. The RCS consists of two subscales: Experience and Intensity of Racism, measuring perceptions of racial discrimination, and Management Power and Policy, measuring perceptions of how authority is utilized. An example from the Experience and Intensity of Racism subscale is, *"I am given the respect I deserve from Whites"*, and an example from the Management Power and Policy subscale is, *"There are people of color in positions of power here."* The scores are summed, with a lower score indicating a negative racial climate, and a higher score indicating a positive racial climate. Cronbach's alpha for the original RCS scale was .83. In a study on job satisfaction and racial climate perceptions of African American counselors, perception of racial climate was positively correlated with job satisfaction with a Cronbach's alpha of .93. (Holcomb-McCoy, C., &

Addison-Bradley, C., 2005) In the current study, the overall measure with all items included was used to calculate a Cronbach's alpha of .87.

Job satisfaction Job satisfaction was measured by the Overall Job Satisfaction Scale (Hackman & Oldham, 1976; Appendix G). This scale measures how an individual feels about their job. The scale consists of three items. Items are scored on a 7-point Likert scale (*1 = strongly disagree* to *7 = strongly agree*). An example of an item is "Generally speaking, I am very satisfied with my job." The reliability coefficient of the original study is .92. In a sample of African American educators, scores on this scale were negatively correlated with experiences of microaggressions (DeCuir-Gunby & Gunby, 2016). In the present study, Cronbach's alpha is .90, which is consistent with previous studies.

Turnover Intentions. Intentions to quit one's job were assessed using Colarelli's (1984) three-item scale (Appendix F). Each item is rated on a 5-point scale (*1 = Strongly disagree* to *5 = Strongly agree*). An example item is "I frequently think of quitting my job". Item responses are averaged to derive an overall scale score, with higher scores indicating greater intentions to quit, and lower score indicating lower intentions to quit. In its initial use, the reliability coefficient for the scale was .75. In a sample of African American employees, scores on this scale were negatively correlated with job satisfaction. Cronbach's alpha in the same study was .74 (Lyons et al., 2014). In the present study, Cronbach's alpha is .73, which is consistent with Cronbach's alpha in previous studies.

People of Color Racial Identity Attitudes Scale (PRIAS) (Helms, 2005)

Racial identity status was measured using the People of Color Racial Identity Attitudes Scale (PRIAS; Appendix C). The PRIAS is a self-report measure designed to assess four racial identity statuses of People of Color racial identity theory (Helms, 1995). The measure consists of 50 items, and uses a scale ranging from 1 (*Strongly Disagree*) to 5 (*Strongly Agree*). There are four subscales: Conformity (12 items; e.g. “In general, I believe that Whites are superior to other racial groups), Dissonance (14 items; e.g. “I feel anxious about some of the things that I feel about people of my race), Immersion (14 items; e.g. “I limit myself to activities involving people of my own race”), and Internalization (10 items; e.g. “People, regardless of their race, have strengths and limitations”). On the PRIAS, the racial identity status of Emersion is understood to be measured in the Immersion subscale, and the status of Integrated Awareness is measured in the Internalization subscale (Perry et al., 2009). The items are summed to form total subscale scores, with higher scores on each subscale indicating higher levels of that identity status. In a study of the validity of the PRIAS with Asian Americans, the researchers found Cronbach’s alpha coefficients of .75 for Conformity, .81 for Dissonance, .79 for Immersion, and .68 for Internalization. In the present study, Cronbach’s alpha for Conformity is .81, for Dissonance it is .79, for Immersion is .86, and for Internalization is .83.

Microaggressions Microaggressions were measured using the Racial and Ethnic Microaggressions Scale (REMS) (Nadal, 2011; Appendix D). The REMS examines the frequency with which people of color experience microaggressions. In developing the REMS, an exploratory analysis identified a six- factor model of microaggressions, categorized by using the

theoretical taxonomy of microaggressions (Sue et al., 2007). These six factors are: a. Assumptions of Inferiority, b. Second-Class Citizen and Assumptions of Criminality, c. Microinvalidations, d. Exoticization/Assumptions of Similarity, e. Environmental Microaggressions, and f. Workplace and School Microaggressions. The subsequent confirmatory factor analysis supported this six-factor model, and Cronbach's alpha for the six-factor model was .89. The REMS consists of 45 examples of microaggressions, and asks the participant to rate how often they have experienced these microaggressions, with the scale ranging from 1 = *I did not experience this event in the past six months* to 2 = *I experienced this event 5 or more times in the past six months*. In the present study, participants were asked to answer based on how often they have experienced each event in the workplace. In a study on microaggressions in the workplace, the experience of microaggressions had a significant negative relationship with job satisfaction. Cronbach's alpha for that study was .91 (Decuir-Gunby & Gunby, 2016). In the present study, Cronbach's alpha for the overall scale is .92.

Demographic information. Participants completed a demographics questionnaire (Appendix H) to identify their age, gender, race/ethnicity, sexual orientation, relationship status, income, level of education, type and size of workplace, whether they are a part of the racial/ethnic majority or minority in the workplace, job title, length of time at the organization and specifically in their current position, and state in the United States in which they reside.

CHAPTER IV

Results

The current chapter discusses the data cleaning and analysis of the data. It also outlines results of the study, specifically, whether the data supports the hypotheses.

SPSS 25.0 was used to analyze the data, and MPlus 8.2 (Muthén & Muthén, 2000) was used to run path analysis. Data analysis included descriptive statistics of the data, correlation analysis, ANOVA, and structural equation modeling. The data were appropriately cleaned prior to running analyses.

Data Cleaning

Overall, 383 cases were excluded from analysis because less than 90% of the survey had been completed. Based on the data, a majority of these participants opened the link and consented to taking part in the study but did not complete any of the measures.

Using Little's (1988) Missing Completely at Random (MCAR) test, the remaining data were assessed to be missing completely at random for the measures of job satisfaction ($\chi^2 = .84$, $df = 3$, $p = .84$), turnover intentions ($\chi^2 = 7.62$, $df = 5$, $p = .18$), P-O fit ($\chi^2 = 2.34$, $df = 4$, $p = .67$), and racial climate ($\chi^2 = 111.97$, $df = 132$, $p = .89$). However, for people of color, on both the PRIAS scale ($\chi^2 = 436.91$, $df = 382$, $p = .03$) and the REMS ($\chi^2 = 331.52$, $df = 286$, $p = .03$), data were shown to not be missing completely at random. On both measures, less than 1% of the data were missing. It is possible that people skipped questions due to the content of the statements, or that on the REMS participants skipped questions if they had not experienced the microaggression described in the item as opposed to choosing the "This did not happen to me" option. To account for missing data when analyzing bivariate correlations, pairwise deletion was used. For path

analysis, missing data were replaced with predicted values through the use of the expectation-maximization (EM) algorithm.

Tests of Normality

Data were also screened to test for normality. Tests were performed using the Kolmogorov-Smirnov and Shapiro-Wilk tests, in which a null hypothesis indicates that the data are not normally distributed. Results showed that the data for the dependent variables were significant ($p < .05$); thus, we failed to reject the null hypothesis and conclude that the data deviate significantly from normality. Skewness and kurtosis were also examined. The results indicated that the measures were skewed but that kurtosis statistics met guidelines for normality. To account for these deviations in normality, a bootstrapping technique was used. Bootstrapping is a data resampling technique that can address issues in normality (Kelley, 2005).

Descriptive Statistics

After excluding 383 participants who completed less than 90% of the study, data were collected from a sample ($N = 485$) of employees in STEM fields. Demographic information including race, ethnicity, age, gender, sexual orientation, income, and workplace information was also collected (see Table 1). Of the overall sample, 60.3% ($n = 293$) identified as being White and 39.7% ($n = 193$) identified as being a person of color. Specifically, 10.5% ($n = 51$) identified as African American/Black, 15% ($n = 73$) identified as Asian American/Pacific Islander, 1.6% ($n = 8$) identified as Native American/Indigenous American/American Indian, 5.6% ($n = 27$) identified as Hispanic/Latinx, 5.1% ($n = 25$) identified as multiracial, and 49.4% ($n = 240$) identified as White. 4.3% ($n = 21$) of the sample used the text box to write in their

race/ethnicity, with a frequent write-in answer of Middle Eastern. 57.8% ($n = 281$) of the sample identified as women, 36.6% ($n = 177$) identified as men, and 5.1% ($n = 25$) identified as transgender, gender nonconforming, or a different gender identity. A majority of the participants were between the ages of 18-39 (81.5%) and have a bachelor's degree or higher (75.9%). Participants' geographical location spanned the United States, with 47 states and Washington, D.C. represented. Participants were recruited via email and social networking sites. To participate in the online survey, participants confirmed that they are (1) 18 years of age or older, (2) identify as a STEM employee, and (3) currently employed, either part-time or full time. To maintain confidentiality, no identifying information was gathered in the survey.

Table 1
Descriptive Statistics for Demographic Information- Entire Sample

Age		<i>Frequency</i>	<i>Percentage</i>
	18-29	287	59.7
	30-39	106	21.8
	40-49	56	11.5
	50-59	26	6
	60-75	6	1.2
Gender		<i>Frequency</i>	<i>Percentage</i>
	Woman	281	57.8
	Man	177	36.6
	Transgender	2	0.4
	Gender nonconforming	16	3.3
	Gender not listed	7	1.4
Race		<i>Frequency</i>	<i>Percentage</i>
	African American/Black	51	10.5
	Asian-American/Pacific Islander/Asian	72	14.9
	Hispanic/Latinx	26	5.4
	Multi-racial	25	5.1
	White/Caucasian	280	57.9
	Native American/Indigenous American/American Indian	8	1.6

	Not listed	21	4.3
Sexual Orientation		<i>Frequency</i>	<i>Percentage</i>
	Straight/Heterosexual	376	77.5
	Bisexual	56	11.5
	Gay	18	3.7
	Lesbian	22	4.5
	Queer	20	4.1
	Asexual	20	4.1
	Pansexual	10	2.1
Level of School		<i>Frequency</i>	<i>Percentage</i>
	High school degree	22	4.5
	Some college	73	15
	Associate's degree	18	3.7
	Bachelor's degree	215	44.2
	Professional degree	9	1.9
	Master's degree	108	22.2
	Doctorate	37	7.6
Income		<i>Frequency</i>	<i>Percentage</i>
	<\$10,000-\$40,000	143	29.4
	\$40,001-\$70,000	119	24.5
	\$70,001-\$90,000	74	15.2
	\$90,001-\$120,000	57	11.7
	>\$120,000	89	18.3
Organization Size		<i>Frequency</i>	<i>Percentage</i>
	<20 employees	80	16.6
	20-100 employees	111	23.0
	101-250 employees	64	13.3
	>250 employees	227	47.1
Field of Employment		<i>Frequency</i>	<i>Percentage</i>
	Science	154	33.7
	Technology	136	28.0
	Engineering	159	32.7
	Math	25	5.1
Racial Ethnic Majority/Minority in Workplace		<i>Frequency</i>	<i>Percentage</i>
	Majority	290	59.7
	Minority	192	39.5

Table 2

Descriptive Statistics for Demographic Information- People of Color

Age		<i>Frequency</i>	<i>Percentage</i>
	18-29	96	50.5
	30-39	49	25.8
	40-49	27	14.2
	50-59	15	7.9
	60-75	2	1.1
Gender		<i>Frequency</i>	<i>Percentage</i>
	Woman	119	62.6
	Man	62	32.6
	Transgender	0	0
	Gender nonconforming	6	3.2
	Gender not listed	2	1.1
Race		<i>Frequency</i>	<i>Percentage</i>
	African American/Black	50	26.3
	Asian-American/Pacific Islander/Asian	70	36.8
	Hispanic/Latinx	24	12.6
	Multi-racial	19	10
	Native American/Indigenous American/American Indian	7	3.7
	Not listed	19	10
Sexual Orientation		<i>Frequency</i>	<i>Percentage</i>
	Straight/Heterosexual	160	84.2
	Bisexual	12	6.3
	Gay	5	2.6
	Lesbian	5	2.6
	Queer	3	1.6
	Asexual	8	4.2
	Pansexual	5	2.6
Level of School		<i>Frequency</i>	<i>Percentage</i>
	High school degree	15	7.9
	Some college	32	16.8
	Associate's degree	9	4.7
	Bachelor's degree	76	40.0
	Professional degree	2	1.1
	Master's degree	44	23.2
	Doctorate	11	5.8

Income		<i>Frequency</i>	<i>Percentage</i>
	<\$10,000-\$40,000	70	36.8
	\$40,001-\$70,000	43	22.6
	\$70,001-\$90,000	26	13.7
	\$90,001-\$120,000	23	12.1
	>\$120,000	27	14.2
Organization Size		<i>Frequency</i>	<i>Percentage</i>
	<20 employees	34	17.9
	20-100 employees	49	25.8
	101-250 employees	26	13.7
	>250 employees	80	42.1
Field of Employment		<i>Frequency</i>	<i>Percentage</i>
	Science	68	35.8
	Technology	53	27.9
	Engineering	50	26.3
	Math	18	9.5
Racial Ethnic Majority/Minority in Workplace		<i>Frequency</i>	<i>Percentage</i>
	Majority	160	84.2
	Minority	29	15.3

Hypothesis 1

To test *Hypothesis 1*, which states that for the overall sample, measures of person-organization fit, job satisfaction, and racial climate will have a statistically significant positive relationship with one another, while turnover intentions will have a statistically significant negative relationship with person-organization fit, job satisfaction, and racial climate, bivariate correlations were performed using SPSS 25.0 to assess relationships between different variables of interest (see Table 2). A positive relationship between variables would indicate that when one variable increases, the other increases as well. A negative relationship between variables would indicate that when one variable increases, the other decreases and vice versa. In the overall sample (N = 485), there was a statistically significant, strong positive correlation between

person-organization fit and job satisfaction ($r = .73, p < .01$). There was also a statistically significant positive correlation between racial climate and job satisfaction ($r = .45, p < .01$). There was a statistically significant negative relationship between turnover intentions and job satisfaction ($r = -.65, p < .01$). Person-organization fit was statistically significantly positively correlated with racial climate ($r = .53, p < .01$) and statistically significantly negatively correlated with turnover intentions ($r = -.66, p < .01$). Racial climate was statistically significantly negatively correlated with turnover intentions ($r = -.36, p < .01$). These results support Hypothesis 1, which posits that there will be positive correlations between person-organization fit, racial climate, and job satisfaction and that there will be negative correlations between turnover intentions and the other workplace measures. That is to say, when perceptions of racial climate were more favorable, intentions to leave one's job were lower, feelings of fit in the organization were higher, and job satisfaction was higher. When perceptions of racial climate were lower, feelings of fit were lower, and job satisfaction was lower, intentions to leave one's job were higher.

Table 3. *Bivariate Correlations of Variables of Interest*

Variable	1	2	3	4	5	6	7	8	9	Range	Mean	SD
1. Job satisfaction	--									1.00-7.00	5.30	1.36
2. P-O Fit	.73**	--								1.00-5.00	3.53	0.88
3. Racial Climate	.45**	.53**	--							1.00-5.00	3.68	0.65
4. Turnover Intentions	.65**	.66**	.36**	--						1.00-5.00	3.50	1.11
5. Gender	-.01	-.04	-.18**	.01	--					0.00-1.00	0.63	0.48
6. Race	-.03	-.02	-.14**	.02	.08	--				0.00-1.00	0.50	0.50
7. Income	.14**	.14**	.16**	.08	.03	.07	--			1.00-6.00	3.60	1.54
8. Job type	.04	.05	.06	.02	-.21**	.01	.11*	.04	--	1.00-2.00	1.60	0.49
9. Org size	-.01	-.03	.03	.05	-.03	.05	.28**	.07	-.01	1.00-2.00	2.09	0.93

Note. N = 485. * Indicates $p < .05$; ** indicates $p < .01$. *M* and *SD* represent the mean and standard deviation. P-O Fit= person-organization fit

Hypothesis 2

To test *Hypothesis 2a*, which states that for people of color, measures of person-organization fit, job satisfaction, and racial climate will have statistically significant positive relationships with one another while turnover intentions and experiences of racial/ethnic microaggressions will be negatively related to person-organization fit, job satisfaction, and racial climate, bivariate correlations were performed using SPSS 25.0. Bivariate correlations were also performed to test *Hypothesis 2b*, which states that Conformity and Internalization attitudes will be positively correlated with P-O fit, job satisfaction, and racial climate while negatively correlated with turnover intentions and REMS and Dissonance and Immersion attitudes will be

positively correlated with turnover intentions and REMS while negatively correlated with P-O fit, job satisfaction, and racial climate.

There were statistically significant negative relationships between REMS and job satisfaction ($r = -.21, p < .01$) REMS and person-organization fit ($r = -.25, p < .01$), and REMS and racial climate ($r = -.24, p < .01$) and statistically significant positive relationships between REMS and turnover intentions ($r = .23, p < .01$) REMS and Dissonance ($r = .19, p < .01$), and REMS and Immersion ($r = .20, p < .01$). There were statistically significant positive relationships between job satisfaction and person-organization fit ($r = .72, p = < .01$), and job satisfaction and racial climate ($r = .55, p = < .01$). There were statistically significant negative relationships between job satisfaction and turnover intentions ($r = -.65, p = < .01$), job satisfaction and Dissonance ($r = -.16, p = < .05$), and job satisfaction and Immersion ($r = -.33, p = < .01$). Person-organization fit was statistically significantly positively related to racial climate ($r = .63, p = < .01$). P-O fit was statistically significantly negatively related to turnover intentions ($r = -.65, p = < .01$), Dissonance, ($r = -.15, p = < .05$), and Immersion ($r = -.33, p = < .01$). There were statistically significant negative relationships between racial climate and turnover intentions ($r = -.44, p = < .01$), racial climate and Dissonance ($r = -.19, p = < .01$) and between racial climate and Immersion ($r = -.43, p = < .01$). There were statistically significant positive relationships between turnover intentions and Dissonance ($r = .24, p = < .01$), and between turnover intentions and Immersion ($r = .42, p = < .01$). There was an unpredicted statistically significant positive relationship between Conformity and turnover intentions ($r = .15, p = < .05$). In regards to the results that were statistically significant, these results were as predicted in Hypotheses 2a and 2b. However, the results of correlations between Conformity and Internalization attitudes and the workplace measures do not support Hypothesis 2b as they were not significant. The unpredicted

positive correlation between Conformity and turnover intentions also does not support Hypothesis 2b.

Therefore, these results fully support Hypotheses 2a, but the predictions in Hypothesis 2b were not fully supported. That is to say, for people of color, job satisfaction, P-O fit, and racial climate were all positively correlated with one another and negatively related to turnover intentions and racial/ethnic microaggressions. Turnover intentions and racial/ethnic microaggressions were positively correlated with one another. There were positive correlations between Conformity attitudes and turnover intentions, Dissonance and REMS, Dissonance and turnover intentions, Immersion and REMS, and Immersion and turnover intentions. There were negative correlations between Dissonance and racial climate, Dissonance and P-O fit, Dissonance and job satisfaction, Immersion and racial climate, Immersion and P-O fit, and Immersion and job satisfaction.

Table 4. *Bivariate Correlations of Variables of Interest, People of Color*

Variable	1	2	3	4	5	6	7	8	Range	Mean	SD
1. Job satisfaction	--								1.00-7.00	5.20	1.43
2. P-O Fit	.72**	--							1.00-5.00	3.50	.93
3. Turnover Intentions	-.65**	-.66**	--						1.00-5.00	2.56	1.06
4. REMS	-.34**	-.37**	.38**	--					0.00-80.00	55.12	8.94
5. Racial Climate	.55**	.63**	-.48**	-.37**	--				1.00-5.00	3.56	.71
6. Conformity	-.71	0.03	.15*	.09	-.01	--			.00-47.00	24.49	7.23
7. Dissonance	-.24**	-.19*	.31**	.17*	-.25**	.50**	--		.00-58.00	37.70	8.70
8. Immersion	-.36**	-.35**	.41**	.39**	-.43**	.40**	.62**	--	1.00-4.00	34.77	8.78
9. Internalization	.19	.17	-.09	.91	.12	-.31**	-.13	-.15*	0.00-50.00	39.91	6.19

Note. N = 192. * Indicates $p < .05$; ** indicates $p < .01$. *M* and *SD* represent the mean and standard deviation. P-O Fit = person-organization fit.

Hypothesis 3

To test *Hypothesis 3*, which predicts that White people will have statistically significantly higher scores on the perceptions of racial climate scale than people of color and people who are in the majority in the workplace will have statistically significantly higher scores on P-O fit and job satisfaction measures and significantly lower scores on turnover intentions than people who are in the minority in the workplace, multiple one-way analysis of variance (ANOVAs) were performed. ANOVAs are used to determine if there are mean differences between a categorical independent variable with more than one group and one or more continuous dependent variables (Pagano, 2004). One-way ANOVAs were conducted to determine if the scores on the job satisfaction, turnover intentions, person-organization fit, and racial climate measures were different for employees that identify as White and people of color (see Tables 4 and 5). Participants were classified into two groups: White ($n = 292$) and people of color ($n = 193$). The results indicated that of the workplace variables, the only statistically significant difference between White participants and participants of color is the racial climate score, $F(1, 483) = 10.869, p < .001$. Racial climate score increased from the people of color group ($M = 3.56, SD = .60$) to the White group ($M = 3.76, SD = .70$). When these groups are broken down into specific racial categories, such as White, Black/African American, Latinx etc., the results remain the same, with racial climate being the only statistically significant difference between racial groups ($F(6, 476) = 2.365, p < .05$). There were no statistically significant differences found between White people and people of color on the measures of person-organization fit, job satisfaction, and turnover intentions. The results are consistent with the hypothesis that White employees had statistically significantly higher means on the racial climate scale than people of color.

Table 5.

Descriptive Statistics for Analysis of Variance by Race

Scale		N	Mean	SD	95% CI		SE
					Lower Bound	Upper Bound	
Turnover Intentions	White	292	2.45	1.15	2.31	2.58	.067
	POC	193	2.56	1.05	2.41	2.71	.076
Job Satisfaction	White	293	5.3	1.31	5.22	5.53	.076
	POC	192	5.19	1.43	4.99	5.39	.103
P-O Fit	White	292	3.56	.84	3.46	3.66	.049
	POC	192	3.48	.93	3.35	3.62	.067
Racial Climate	White	293	3.76	.60	3.69	3.83	.035
	POC	192	3.56	.70	3.46	3.66	.051

Note. N = 485. SD = Standard Deviation; CI = Confidence Interval; SE = Standard Error

Table 6.

Analysis of Variance between Racial Groups for Workplace Measures

Scale		SS	DF	MS	F	Sig
Turnover	Between Groups	1.52	1	1.52	1.220	.270
	Within Groups	602.45	483	1.25		
	Total	603.97	484			
Job Sat	Between Groups	3.943	1	3.94	2.124	.146
	Within Groups	896.43	483	1.86		
	Total	900.37	484			
PO Fit	Between Groups	.65	1	.65	.841	.360
	Within Groups	373.28	482	.77		
	Total	373.93	483			
Climate	Between Groups	4.55	1	4.55	10.869	.001
	Within Groups	202.12	483	.42		
	Total	206.67	484			

Note. N = 485. Groups = White, POC; SS = Sum of Squares; DF = Degrees of Freedom; MS = Mean of Squares

Hypothesis 4

This study used a path analysis design to analyze the model's fit with the data. Path analysis is a form of structural equation modeling. Path analysis examines potential relationships between independent variables and dependent variables, and these possible relationships are all represented in a path model. Structural equation modeling describes direct associations, such as the strength and direction of the relationship between experiences of microaggressions and job satisfaction, indirect associations, such as how racial identity attitudes can act as a mediator between these two variables, and interaction associations, such as how racial identity attitudes can moderate the relationship between these variables. MPlus also has the ability to test relationships between more than one independent and dependent variable at once.

In order to examine the direct relationships and interaction relationships between the constructs in this study, a path model was constructed and run using MPlus 8.2 (Muthén & Muthén, 2000). MPlus was used in order to look at multiple predictor variables and outcome variables at once as well as to better understand the nature of their relationships with one another. A path model was created in which racial climate, racial/ethnic microaggressions, and the four racial identity statuses (Conformity, Dissonance, Immersion/Emersion, Internalization/Integrative Awareness) were the exogenous variables and job satisfaction, turnover intentions, and person-organization fit were the endogenous variables. Path analysis is also used to assess the model's goodness of fit with the data.

Model Fit

The following goodness of fit indices were used to determine fit: Chi-square test of model fit, Root Mean Square Error of Approximation (RMSEA), Comparative Fit Index (CFI),

Tucker Lewis Index (TLI), and Standardized Root Mean Square Residual (SRMR). These indices are based on guidelines suggested by Weston & Gore (2006) for research that has <500 samples. The chi-square test is an absolute fit index to assess how well the data fit the model, and is more specifically a test of model misspecification. Because it is testing misspecification, a significant χ^2 indicates that the model does not fit the sample. CFI and TLI compare the researcher's model to a null model. Both range from 0 to 1.0 with values closer to 1.0 indicating better model fit. RMSEA corrects for a model's complexity, with a value of .00 indicating that the model exactly fits the data. SRMR is based on covariance residuals and summarizes how much difference exists between the observed data and the model. Smaller SRMR values indicate better model fit.

Fit of the model was evaluated based on the Weston & Gore (2006) guidelines. The model fit results are as follows: $\chi^2 = 0.00$, 0 *df*, $p < .01$; CFI = 1.00; TLI = 1.00; RMSEA = 0.00, (90% CI = 0.00, 0.00); SRMR = 0.00. These results indicate a just-identified model, which means that this model fits the data perfectly because there are no degrees of freedom. Because these indices indicated good model fit, the direct and interaction associations were analyzed.

Direct Associations

Hypothesis 4a was addressed by examining the direct associations between the exogenous and endogenous variables using path analysis (see Figure 4). There was a significant positive direct relationship between racial climate and job satisfaction ($\beta = 0.40$, $p = <.001$) indicating that when perceptions of racial climate are higher, job satisfaction is higher. There was a significant positive direct relationship between perception of racial/ethnic microaggressions and turnover intentions ($\beta = 0.20$, $p = <.05$) indicating that when perception of microaggressions

is higher, turnover intentions are higher. There was a significant negative direct relationship between racial climate and turnover intentions ($\beta = -0.43, p = <.001$) indicating that when perception of racial climate is higher, turnover intentions are lower. There was a significant negative direct relationship between racial/ethnic microaggressions and person-organization fit ($\beta = -0.16, p = <.05$) indicating that when perception of microaggressions is lower, person-organization fit is higher. There was a significant positive relationship between racial climate and person-organization fit ($\beta = 0.51, p = <.001$) indicating that when racial climate is higher, person-organization fit is higher. These results were largely consistent with Hypothesis 4a, with the exception being that there was not a statistically significant direct association between REMS and job satisfaction ($\beta = -0.11, p = ns$). That is to say, that when perceptions of racial climate are higher, the workplace outcomes of job satisfaction and P-O fit are higher and turnover intentions are lower. When perceptions of racial/ethnic microaggressions are higher, turnover intentions are higher and P-O fit is lower.

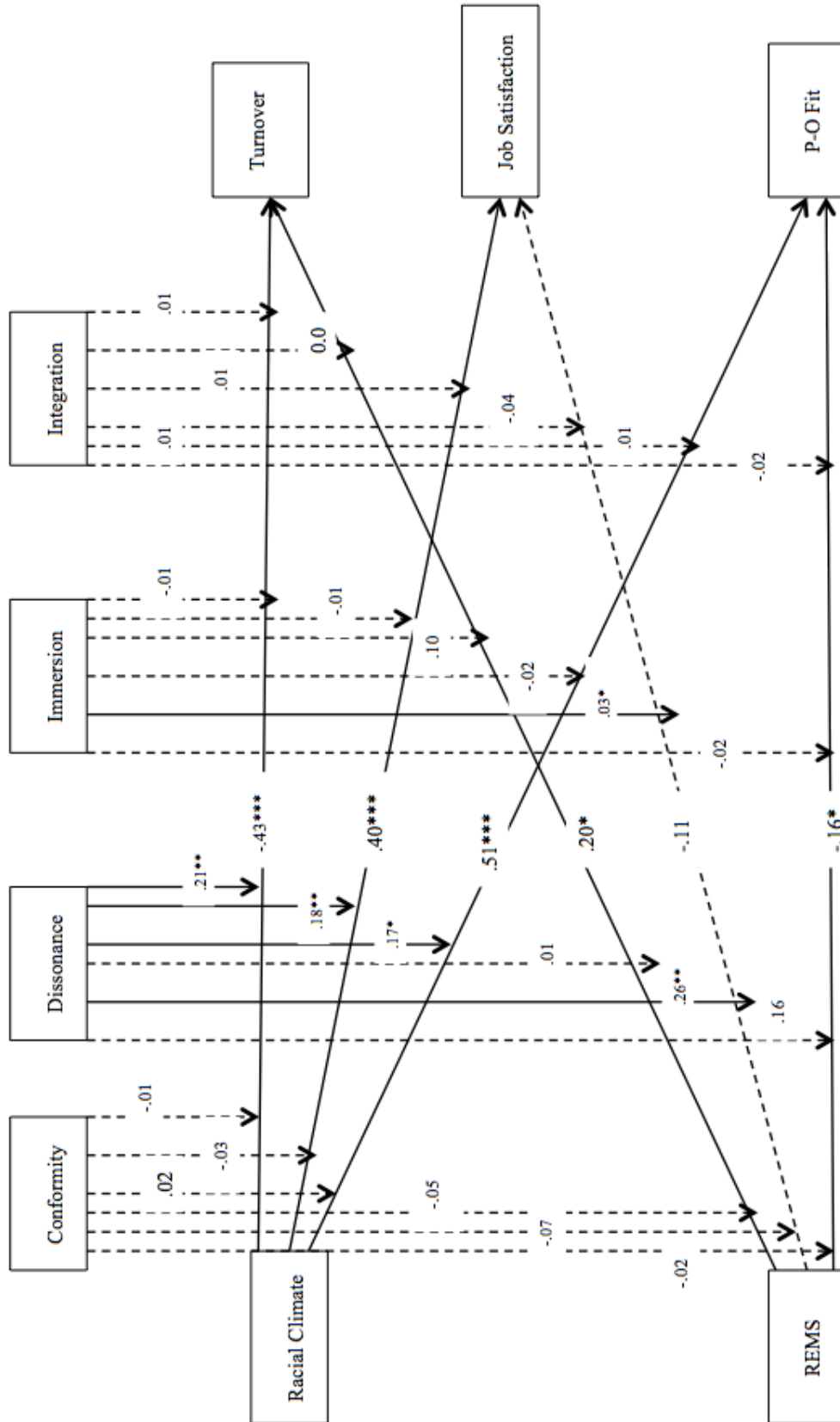


Figure 4. Full path model with Racial Climate and REMS as exogenous variables and the racial identity attitude statuses as moderators. Dashed lines indicate non-significant paths. Values reflect standardized coefficients. * $p < .05$; ** $p < .01$; *** $p < .001$.

Interaction Associations

Hypothesis 4b was tested by examining the interaction effects between variables and was tested by creating interaction terms to insert into the path analysis in MPlus (see Table 6 for results). Interactions test moderation, which describes the specific conditions under which a predictor variable is related to an outcome variable. Racial identity attitudes were modeled as moderators on the relationships between the exogenous variables of racial climate and racial/ethnic microaggressions and the endogenous variables of job satisfaction, person-organization fit, and turnover intentions.

Interaction terms were created by computing new variables that were the product of the moderating variable and the predictor variable. For example, an interaction term to examine the moderating effect of Conformity attitudes on racial climate is represented as *ClimatexConformity*. Interaction terms were created for each of the four racial identity statuses multiplied by each of the predictor variables (racial climate and REMS). Thus, eight unique interaction terms were created. These terms were included in the model to examine if the interactions had a significant relationship with the endogenous variables. If an interaction term was found to be significant, a graph was created in order to understand the nature of this interaction (see Figures 5-9). In these graphs of interaction effects, low and high values of predictor variables were defined as one standard deviation below and one standard deviation above the mean of each variable, respectively.

Table 7. Standardized Coefficients, Standard Error, and P-Values of Interaction Effects

Exogenous Variable	Endogenous Variable								
	Job satisfaction			Turnover Intentions			Person-Organization Fit		
	β	se	<i>p</i>	β	se	<i>p</i>	β	se	<i>p</i>
REMS	-0.11	.07	.10	.20	.07	< .001***	-0.16	.07	.02*
Climate	0.40	.07	< .001***	-0.43	.07	< .01**	0.51	.07	< .001***
REMSxConformity	-0.07	.07	.34	-0.05	.07	.47	-0.02	.07	.75
REMSxDissonance	0.26	.09	< .01**	0.01	.08	.99	0.16	.09	.06
REMSxImmersion	-0.14	.07	.03*	0.10	.07	.13	-0.02	.07	.82
REMSxIntegration	-0.04	.07	.56	0.00	.07	.99	-0.02	.07	.82
ClimxConformity	0.02	.08	.82	-0.01	.08	.88	-0.03	.08	.72
ClimxDissonance	0.18	.08	< .01**	.21	.07	< .01**	0.17	.08	.02*
ClimxImmersion	-0.10	.02	.60	-0.01	.02	.86	-0.20	.02	.23
ClimxIntegration	0.01	.01	.53	0.01	.01	.94	0.01	.01	.32

Note. N = 192. * Indicates $p < .05$; ** indicates $p < .01$, *** indicates $p < .001$. REMS = Racial/ethnic microaggressions; Climate/Clim = Racial climate. Interaction terms are indicated with an “x” between the variables that create the interaction term.

Job Satisfaction

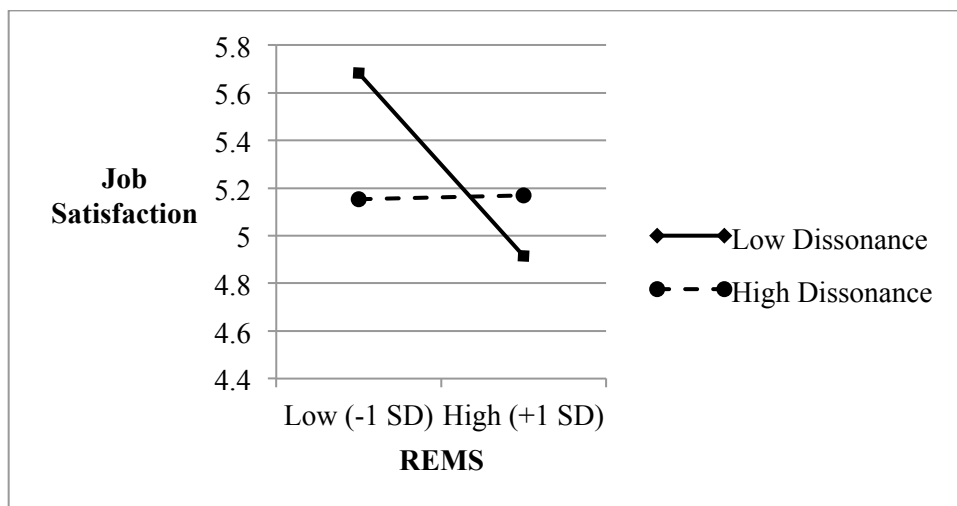


Figure 5. Interaction of Dissonance attitudes and racial/ethnic microaggressions (REMS) on job satisfaction. High Dissonance = 1 standard deviation above the mean; low Dissonance = 1 standard deviation below the mean.

In regards to job satisfaction, Dissonance attitudes significantly moderated the relationship between racial/ethnic microaggressions and job satisfaction ($\beta = 0.26, p = <.05$). Specifically, for individuals with high Dissonance attitudes, perceiving higher or lower amounts of microaggressions (REMS) did not impact their rating of job satisfaction. However, for individuals with low Dissonance attitudes, their rating of job satisfaction was higher when they reported a lower amount of microaggressions and lower when they reported a higher amount of microaggressions (see Figure 5). Therefore, it seems that for those with high Dissonance attitudes, REMS does not impact job satisfaction but for those with low Dissonance attitudes, the amount of perceived microaggressions has a significant effect on job satisfaction. This was an unpredicted relationship, as it was hypothesized that higher Dissonance attitudes would moderate the path between these variables.

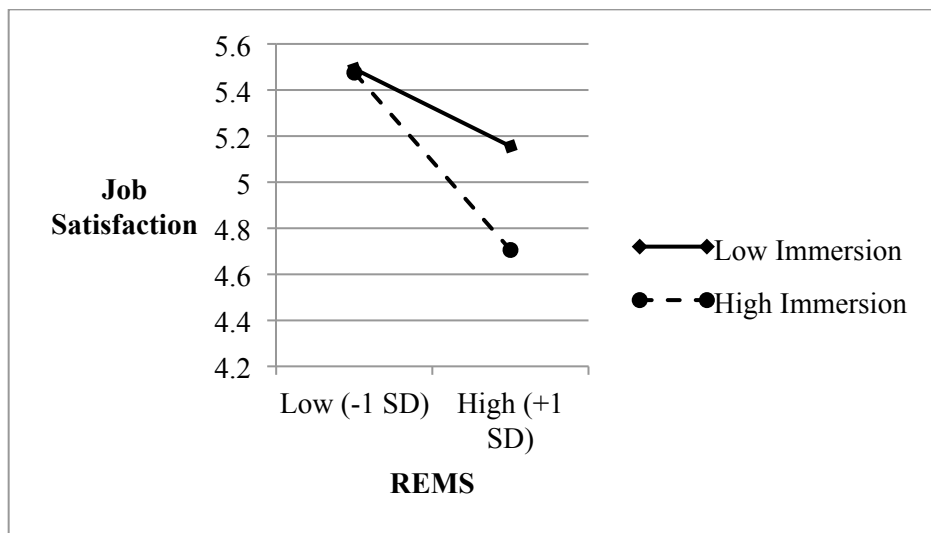


Figure 6. Interaction of Immersion attitudes and racial/ethnic microaggressions (REMS) on job satisfaction. High Immersion = 1 standard deviation above the mean; low Immersion = 1 standard deviation below the mean.

There was a significant interaction between racial/ethnic microaggressions and immersion attitudes on job satisfaction ($\beta = -0.14, p = < .05$). For both individuals who are low and high on immersion attitudes, when the amount of perceived microaggressions was lower, job satisfaction was rated as higher. However, when the amount of perceived microaggressions was higher, high immersion individuals rated job satisfaction as lower than those with low immersion attitudes (see Figure 6). Therefore, it seems that for individuals with both low and high Immersion attitudes, when microaggressions are low, job satisfaction is the same but when microaggressions are high, individuals with higher Immersion attitudes rate job satisfaction as lower than those with lower Immersion attitudes.

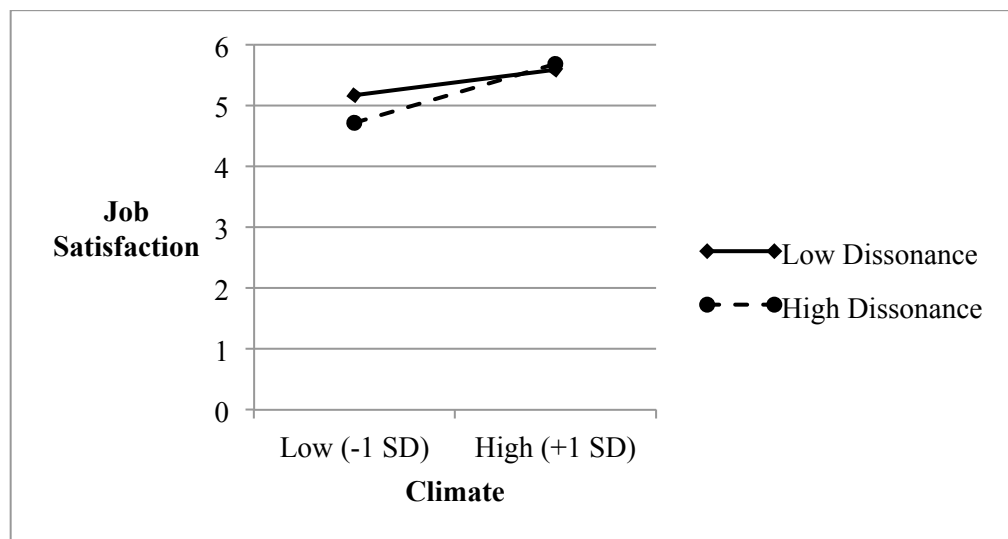


Figure 7. Interaction of Dissonance attitudes and racial climate (Climate) on job satisfaction. High Dissonance = 1 standard deviation above the mean; low Dissonance = 1 standard deviation below the mean.

There was a significant interaction effect between Dissonance attitudes and racial climate on job satisfaction ($\beta = 0.18, p = < .05$). Individuals who endorse higher Dissonance attitudes

rate their job satisfaction as being lower than those with low Dissonance attitudes when racial climate is low. However, both low and high Dissonance attitude individuals rate job satisfaction as higher when racial climate is high (see Figure 7). Thus, it seems that for high Dissonance individuals, perception of racial climate impacts the rating of job satisfaction.

Turnover Intentions

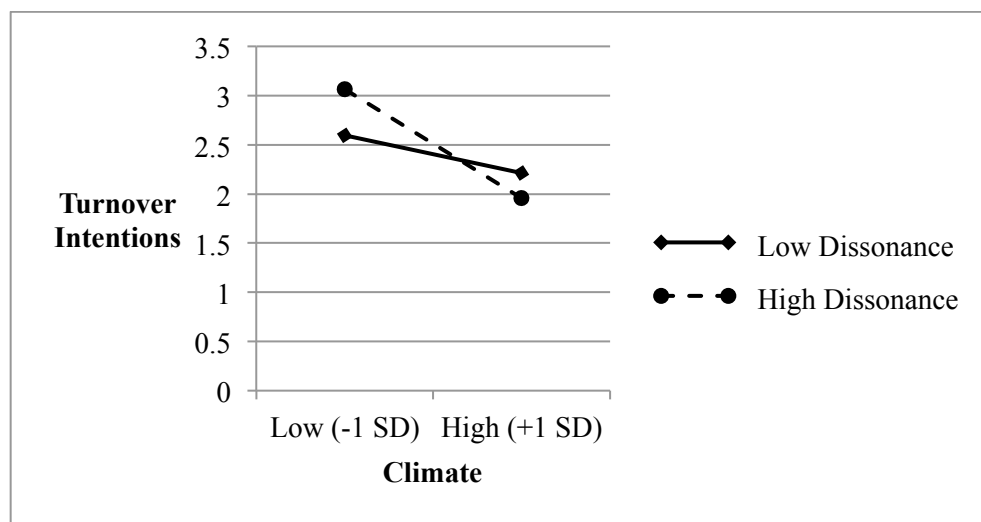


Figure 8. Interaction of Dissonance attitudes and racial climate (Climate) on turnover intentions. High Dissonance = 1 standard deviation above the mean; low Dissonance = 1 standard deviation below the mean.

There was a significant interaction between Dissonance attitudes and racial climate on turnover intentions ($\beta = -0.21, p = <.01$). Individuals with high Dissonance attitudes endorse higher turnover intentions than low Dissonance individuals when racial climate is low. However, when racial climate is high, high Dissonance individuals endorse lower turnover intentions than low Dissonance individuals (see Figure 8). Therefore, it seems that for high Dissonance attitude

individuals, perception of racial climate has a more significant effect on turnover intentions than for low Dissonance individuals.

Person-Organization Fit

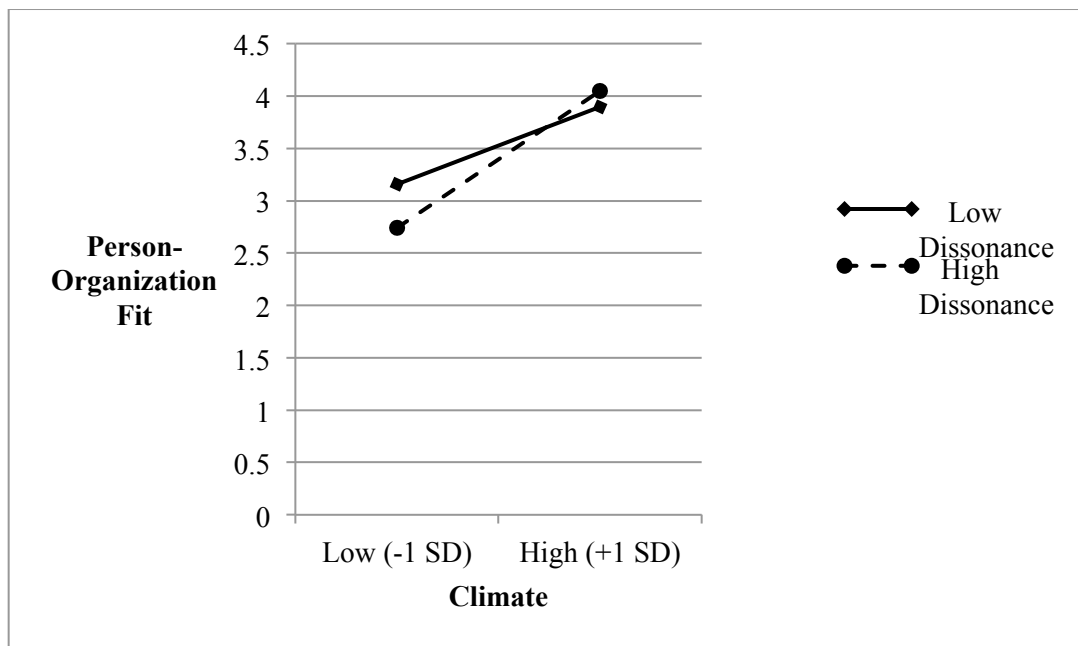


Figure 9. Interaction of Dissonance attitudes and racial climate (Climate) on person-organization fit. High Dissonance = 1 standard deviation above the mean; low Dissonance = 1 standard deviation below the mean.

There was a significant interaction between Dissonance attitudes and racial climate on person-organization fit ($\beta = 0.17, p = < .05$). Individuals who endorse lower Dissonance attitudes have a higher rating of person-organization fit than those with higher Dissonance attitudes when racial climate is lower. When racial climate is high, both low Dissonance and high Dissonance individuals report higher levels of P-O fit (see Figure 9). Therefore, it seems that for individuals

with high Dissonance attitudes, perception of racial climate has a more significant effect on perception of person-organization fit than for individuals with low Dissonance attitudes.

Summary of the Findings

Overall, many of the findings were consistent with the hypotheses. For the workplace variables, the results were consistent with all of the predicted relationships in Hypothesis 1. That is to say, person-organization fit, perceptions of racial climate, and job satisfaction were all positively related to one another and negatively related to turnover intentions. These results were also exhibited in sample that only included people of color, which is consistent with Hypothesis 2. Hypothesis 2 also examined the ways in which racial and ethnic microaggressions relate to the workplace variables, with significant results indicating that the relationships are consistent with the predictions in Hypothesis 2, which were that experiences of racial/ethnic microaggressions would be negatively related to P-O fit, job satisfaction, and racial climate. In regards to Hypothesis 3, the results did not support the hypothesis that there would be significant differences between White people and people of color for all of the workplace variables; rather, there was a significant difference only for perceptions of racial climate.

Hypotheses 4a and 4b were tested with a path model. Hypothesis 4a explored the direct associations between the exogenous variables of racial climate and racial/ethnic microaggressions and the endogenous variables of turnover intentions, job satisfaction, and person-organization fit. It was predicted that for racial climate, there would be a direct positive association with job satisfaction and P-O fit, and a direct negative association between racial climate and turnover intentions. It was predicted that for REMS, there would be a direct positive association with turnover intentions, and a direct negative association between REMS and job

satisfaction and P-O fit. As predicted, the results of the path model indicate that there were direct positive associations between racial climate and job satisfaction and between racial climate and P-O fit, and a direct negative association between racial climate and turnover intentions. In regards to REMS, as predicted there were direct negative associations between REMS and P-O fit and between REMS and job satisfaction. Also as predicted, there was a positive direct association between REMS and turnover intentions.

Hypothesis 4b explored the interaction effects of the racial identity attitudes on the relationships between racial climate, REMS, and the workplace variables of job satisfaction, P-O fit, and turnover intentions. It was predicted that the racial identity attitudes would have significant effects on each of the paths between REMS, racial climate, and the workplace variables. However, only five of the predicted interaction effects were significant. There was a significant moderating effect of Dissonance attitudes on the relationship between REMS and job satisfaction such that when for low Dissonance individuals, when REMS were low, job satisfaction was high but when REMS were high, job satisfaction was low. For high Dissonance individuals, job satisfaction remained the same with both high and low REMS. There was a significant moderating effect of Immersion attitudes on the relationship between REMS and job satisfaction such that for both low and high Immersion attitudes, job satisfaction was high when REMS was low. However, when the amount of perceived microaggressions was higher, high Immersion individuals rated job satisfaction as lower than those with low Immersion attitudes.

There was a significant moderating effect of Dissonance attitudes on the relationship between racial climate and job satisfaction such that individuals who endorse higher Dissonance attitudes rate their job satisfaction as being lower than those with low Dissonance attitudes when racial climate is low but when racial climate is high, both low and high Dissonance attitude

individuals rate job satisfaction as higher. There was also a significant moderating effect of Dissonance attitudes on the relationship between racial climate and turnover intentions, such that when racial climate is low, individuals with high Dissonance attitudes endorse higher turnover intentions than low Dissonance individuals but when racial climate is high, high Dissonance individuals endorse lower turnover intentions than low Dissonance individuals. Finally, there was a significant moderating effect of Dissonance attitudes on the relationship between racial climate and person-organization fit. Specifically, when racial climate is low, individuals who endorse lower Dissonance attitudes have a higher rating of person-organization fit than those with higher Dissonance attitudes and when racial climate is high, both low Dissonance and high Dissonance individuals report higher levels of P-O fit.

Overall, the findings of Hypotheses 1, 2, and 3 are consistent with previous studies examining the relationships between person-organization fit, job satisfaction, turnover intentions, and racial climate. In comparing the workplace experiences of employees who identify as White and employees who identify as people of color, there was a significant difference in perceptions of racial climate, with White employees perceiving the racial climate in the workplace to be more positive than employees of color. In regards to Hypothesis 4a, the majority of the results identified predicted relationships between workplace variables, with the exception of the direct relationship between REMS and job satisfaction being nonsignificant. A majority of the predicted moderation effects in Hypothesis 4b were nonsignificant. Dissonance attitudes had significant moderating effects on more paths than any other racial identity attitude status. These results will be further explored in the following chapter.

CHAPTER V

DISCUSSION

The current chapter discusses the results, implications, and limitations of this research study. Overall, the findings suggest that racial climate and experiences of microaggressions do impact the workplace outcomes of job satisfaction, turnover intentions, and person-organization fit. Specifically, there were positive direct associations between racial climate and job satisfaction, racial climate and person-organization fit, and REMS and turnover intentions. There were negative direct associations between racial climate and turnover intentions and REMS and person-organization fit. Racial identity attitudes were also related to racial climate, experiences of microaggressions, job satisfaction, turnover intentions, and person-organization fit. Specifically, Dissonance and Immersion attitudes were correlated with each workplace variable and Dissonance attitudes significantly moderated the relationships between select workplace variables. This chapter will address an overview of the findings, implications for practice, implications for research, limitations of the study, directions for future research, and conclusions.

Summary of the Study

The purpose of this study was to better understand the ways in which racial identity attitudes may affect the workplace experience for people of color, specifically in STEM fields, in which people of color are underrepresented and have a higher turnover rate than White people (Hom et al., 2008; Scott et al., 2017). The study aimed to build on previous literature on racial identity attitudes as well as on the impact of racial climate and microaggressions in the workplace. Self-report measures were used to assess participants' job satisfaction, turnover intentions, perception of their fit in the workplace (person-organization fit), perception of racial climate, and experiences of microaggressions in the workplace. It was hypothesized that

individuals' appraisal of the workplace variables may vary based on the racial identity status attitudes that they endorse. The study examined associations between two predictor variables (racial climate and racial/ethnic microaggressions) on three outcome variables (job satisfaction, turnover intentions, and person-organization fit). Moderation relationships of four variables (racial identity attitude statuses) on the paths between the predictor and outcome variables were also examined. Overall, results offer mixed support for the hypotheses.

Overview of the Findings

This section provides an overview of the findings of the research study. The study aimed to explore the role of racial identity attitude statuses in the workplace, specifically as they relate to select workplace outcome variables. Bivariate correlations, differences in means, direct associations, and interaction associations were tested.

Hypothesis 1 predicted that there would be statistically significant positive correlations between job satisfaction, person-organization fit, and racial climate and that there would be statistically significant negative correlations between turnover intentions and job satisfaction, P-O fit, and racial climate. These predictions were tested using bivariate correlations. The results of the bivariate correlations were as predicted and were consistent with prior research on workplace experiences. Job satisfaction was positively correlated with person-organization fit and negatively correlated with turnover intentions, which replicates prior research (Lovelace & Rosen, 1996; Lyons & O'Brien, 2006; Edwards & Cable, 2009). Person-organization fit was positively correlated with job satisfaction and racial climate, and negatively correlated with turnover intentions. It makes sense that feeling like one is a good fit for your organization (P-O fit) would positively impact one's job satisfaction, and would negatively impact one's turnover

intentions (i.e. one would have rated turnover intentions as lower because one does not intend to leave one's job). Person-organization fit was positively correlated with job satisfaction and racial climate, and negatively correlated with turnover intentions.

In regards to racial climate, the results also supported the prediction that higher perceptions of racial climate would be correlated with higher job satisfaction and P-O fit and lower turnover intentions (McKay et al., 2007; Lyons et al., 2006; Lyons et al., 2014). High ratings of racial climate would indicate that there is diversity in the workplace, that diversity is respected in the workplace, and that race in the workplace is acknowledged in a positive way (Mor Barak et al., 1998). It also would indicate that employees of the organization feel that there are equal opportunities for both White people and people of color. It seems clear that having a high racial climate in the workplace is beneficial for all employees.

Turnover intentions were negatively correlated with job satisfaction, person-organization fit, and racial climate. As turnover intentions measure the intent to leave one's job, it makes sense that if job satisfaction is high, turnover intentions would be low, and this significant correlation replicates prior research (Edwards & Cable, 2009; Griffeth et al., 2000). It also makes sense that feeling like one fits in an organization and feeling like it is a positive environment for all racial groups would correlate with lower turnover intentions.

Hypotheses 2a and 2b examined bivariate correlations and looked specifically at results for people of color in the sample. Hypothesis 2a predicted that for people of color, there would be statistically significant positive correlations between job satisfaction, P-O fit, and racial climate and that these variables would have statistically significant negative correlations with turnover intentions and racial/ethnic microaggressions. It was also predicted that REMS and turnover intentions would be positively correlated with one another. The findings of Hypothesis

2a supported the predicted relationships, with racial climate, job satisfaction, and P-O fit having statistically significant positive correlations with one another and negative correlations with racial/ethnic microaggressions and turnover intentions. These results are consistent with previous literature indicating that experiences with discrimination in the workplace are negatively correlated with job satisfaction (Bergman et al., 2012). When the relationship between perceptions of racial/ethnic microaggressions and racial climate was examined, there was a statistically significant negative correlation between the two constructs. These results aligned with the predicted outcome and are consistent with prior research showing that when there are higher perceived microaggressions, individuals would rate racial climate as lower because they are aware of the discrimination that people of color are experiencing in the organization. Conversely, if there are fewer microaggressions in the workplace, it seems that climate is perceived as more positive (DeCuir-Gunby & Gunby, 2016). It is possible that a high racial climate would buffer an individual from the impacts of microaggressions. For example, if someone perceives the racial climate of the workplace to be very high, it is possible that when they experience a microaggression, they may not notice or may dismiss it because they believe the organization to be racially sensitive.

Hypothesis 2b predicted that there would be significant correlations between the racial identity attitude statuses and the workplace variables. It was predicted that Conformity and Internalization attitudes would be positively correlated with job satisfaction, P-O fit, and racial climate and negatively correlated with turnover intentions and REMS. It was also predicted that Dissonance and Immersion attitudes would be positively correlated with turnover intentions and REMS and negatively correlated with job satisfaction, P-O fit, and racial climate.

The results of Hypothesis 2b indicate that as predicted, there were statistically significant positive correlations between Dissonance and Immersion attitudes and turnover intentions as well as Dissonance and Immersion attitudes and REMS. There were statistically significant negative correlations between Dissonance and Immersion attitudes and job satisfaction, P-O fit, and racial climate. These results were as predicted. However, there was an unpredicted result of a statistically significant positive correlation between Conformity attitudes and turnover intentions. There were no other statistically significant correlations between Conformity attitudes and any of the other workplace variables. Conformity attitudes are characterized by a lack of awareness of racial dynamics, ascribing to White values, and devaluing one's racial identity. Research on emotional states and racial identity attitude statuses has been mixed, but Carter & Reynolds (2011) found that Conformity attitudes were associated with feelings of anger, depression, confusion, fatigue, and tension. It is possible that as Conformity attitudes increase, these negative feelings increase, which could lead to greater turnover intentions. There were also no statistically significant correlations between Internalization attitudes and the workplace variables. It makes sense that Dissonance and Immersion attitudes would be more significantly correlated with the workplace measures as these attitudes are characterized by more anxiety and strong viewpoints (Helms, 1995; Sue & Sue, 2016).

Hypothesis 3 examined differences between White people and people of color on job satisfaction, turnover intentions, person-organization fit, and racial climate. It was hypothesized that there would be significant differences between White people and people of color on all measures, but there was only one significant difference. White people rated the racial climate significantly higher than did people of color. This is consistent with prior research, which has found that White people tend to rate racial climate more favorably than people of color rate racial

climate, and this result replicates that finding (Mor Barak, 1998). Literature suggests that White people are less aware of racial dynamics in the workplace and also believe that it is less important to have racial diversity in the workplace. In turn they may have a lower understanding of any negative experiences for people of color in the workplace (Mor Barak et al., 1998; Foley et al., 2002; Pew Research Center, 2018).

Hypotheses 4a and 4b were tested using a path model. This allowed for direct, indirect, and interaction associations to be tested, but for the purposes of this study only direct and interaction associations were examined. **Hypothesis 4a** predicted that there would be positive direct associations between racial/ethnic microaggressions and turnover intentions. It also predicted that there would be negative direct associations between racial/ethnic microaggressions and job satisfaction and REMS and person-organization fit. Hypothesis 4a also predicted that there would be positive direct associations between racial climate and job satisfaction and racial climate and P-O fit, and negative direct associations between racial climate and turnover intentions. The results indicated that as predicted, there were positive direct associations between REMS and turnover intentions, racial climate and job satisfaction, and racial climate and P-O fit. Also as predicted, there were negative direct associations between REMS and P-O fit and racial climate and turnover intentions. However, there was not a statistically significant negative direct association between REMS and job satisfaction as the hypothesis predicted. This is a surprising result, as there was a significant negative correlation between REMS and job satisfaction. It is possible that because of the addition of all of the other variables in the model, there was a suppression effect on this relationship, which made the relationship between REMS and job satisfaction weaker. With the exception of the path between REMS and job satisfaction not

meeting significance, Hypothesis 4a was as predicted and is consistent with the results and directions of the bivariate correlations in Hypothesis 2a.

Hypothesis 4b made predictions about the interaction and moderation relationships of the four racial identity attitudes on the paths between racial climate, REMS, job satisfaction, turnover intentions, and P-O fit. It was predicted that higher Dissonance and Immersion attitudes would strengthen the paths between racial climate and job satisfaction, racial climate and turnover intentions, racial climate and P-O fit, REMS and job satisfaction, REMS and turnover intentions, and REMS and P-O fit. It was predicted that higher Conformity and Integration attitudes would attenuate those same relationships. The results of the path model indicate mixed support for Hypothesis 4b. Specifically, Dissonance significantly moderated the relationships between microaggressions and job satisfaction, climate and job satisfaction, climate and turnover intentions, and climate and person-organization fit. Immersion also significantly moderated the relationship between microaggressions and job satisfaction. Dissonance attitudes were most impactful on the relationships between racial climate and the workplace variables.

Results showed that for those with high Dissonance attitudes, the perception of racial climate had a significant effect on their job satisfaction, turnover intentions, and person-organization fit. Specifically, when individuals with high Dissonance attitudes perceived racial climate to be low, job satisfaction and person-organization fit were lower while turnover intentions were higher. When individuals with high Dissonance attitudes perceived racial climate to be higher, job satisfaction and P-O fit were higher while turnover intentions were lower. Dissonance attitudes are characterized by some anxiety and confusion about one's race as racial group differences and marginalization are become more salient. It seems that racial climate is significant for those with high Dissonance attitudes.

Dissonance attitudes also moderated the relationship between racial/ethnic microaggressions and job satisfaction such that for those with lower Dissonance attitudes, experiences of microaggressions affected job satisfaction. This was an unpredicted result, and for those with lower Dissonance attitudes, experiences of microaggressions seem to significantly impact job satisfaction. For instance, for individuals with lower Dissonance attitudes, when experiences of microaggressions were higher, job satisfaction was lower. This was unpredicted because Dissonance attitudes are characterized by confusion and anxiety about race as well as an emerging understanding of racial dynamics; thus, it was expected that individuals with higher Dissonance attitudes would be more affected by microaggressions, but instead the negative relationship between microaggressions and job satisfaction was significant for individuals with lower Dissonance attitudes. Because individuals can hold lower or higher attitudes across the statuses simultaneously, it is possible that individuals with lower Dissonance attitudes could hold greater Immersion attitudes, which significantly moderated this same path between REMS and job satisfaction.

It was hypothesized that high Immersion attitudes would significantly moderate the relationships between racial climate, REMS, and the workplace outcome variables. However, Immersion attitudes only significantly moderated the relationship between REMS and job satisfaction. For individuals with high Immersion attitudes, the amount of perceived microaggressions impacted ratings of job satisfaction. Specifically, the more microaggressions that an individual with high Immersion attitudes experienced, the lower their job satisfaction. That is to say, for individuals with high Immersion attitudes, characterized by overidentification with one's own race and anger towards the White dominant culture, greater experiences with microaggressions led to lower job satisfaction. This result provides support for prior research that

experiences of discrimination in the workplace leads to less job satisfaction (Bergman et al., 2012).

Implications for Practice

Based on the results of this study, there are some implications for clinical practice with clients as well as for workplace initiatives. In regards to practice, depending on the client's presenting problems and impetus for attending therapy, it may be helpful to gain an understanding of their racial identity attitudes. Using racial identity development theory to lay groundwork for a clinician's holistic understanding of a client who identifies as a person of color would be very useful. This could help a clinician understand more about a client's attitudes towards their own race and towards other races, and may also give insight into the client's perception of the clinician as well. For example, based on the findings of this study, it seems that Dissonance attitudes have the greatest effect on workplace experiences. As a clinician, if one is aware that a client holds higher Dissonance attitudes, this could influence the case conceptualization of the client and encourage the clinician to be aware of the client's workplace experiences. Understanding a client's racial identity attitudes helps the clinician understand a client's worldview and can shed light on their lived experience. It is also imperative that the clinician understands one's own racial identity attitudes in order to examine the ways in which those attitudes may be affecting the therapeutic relationship and one's multicultural competence. Research has shown that less advanced racial identity attitude statuses are related to lower levels of multicultural competence (Vinson & Neimeyer, 2000). Racial identity attitudes do not define a client but help to paint a more vivid picture of who the client is and the struggles that they may deal with on a daily basis.

In regards to the workplace, the results suggest a number of considerations to make a workplace a comfortable space for all employees. For both White employees and employees of color, higher ratings of racial climate led to higher job satisfaction, higher perceptions of person-organization fit, and lower turnover intentions. It seems that creating a climate in which race is acknowledged and employees feel like they have equal opportunities regardless of race is essential for employee satisfaction and retention. Chrobot-Mason and Thomas proposed four types of relationships between the organization and the individual regarding racial identity in the workplace. The authors posit that a workplace with high racial identity clearly demonstrate the value of diversity and make employees feel like diversity is an asset to be embraced (Chrobot-Mason & Thomas, 2002). One type of relationship that they describe is a positive parallel relationship. This relationship is the “ideal” relationship, in which both the organization and its employees have achieved a more advanced understanding of their racial identity. This type of relationship seems like it would yield the most positive results. Based on Chrobot-Mason and Thomas’ (2002) definition of organizational racial identity, it seems that this definition extends to the current study’s definition of racial climate: a climate in which diversity is celebrated and in which there is a demonstrated value on diversity. In this study, racial climate significantly predicted the workplace outcome variables of the findings of this study. It follows that a positive parallel relationship in which racial identity (climate) is high and an individual’s racial identity attitudes are advanced would have the most positive workplace results. To foster a high racial climate, organizations should not endorse a “colorblind” approach in which everyone is treated the same regardless of their identities; rather, organizations should engage in an approach that highlights diversity and celebrates the different identities of their employees (Sue, 2008; Stevens et al., 2008).

One study estimated that 76% of organizations provide some type of diversity training, and workplace diversity training is estimated to be an \$8 billion industry (Fegley, 2006; Anand & Winters, 2008). However, scholars have criticized these programs for their divisiveness, potentially emotionally damaging content, and the lack of connection to procedures that will lead to change (Chrobot-Mason, Hays-Thomas, & Wilshik, 2008). Instead, organizations could engage in diversity trainings that focus on organizational behaviors that foster an environment of equal access to opportunities and in which employees feel they are treated equally (Chrobot-Mason & Aramovich, 2013). In order to assess the racial climate in the workplace, employee attitude surveys should include items about diversity and organizational workplace climate, and organizations can use this information to track progress and continue to develop training content that is relevant to the organization. For example, if results from an employee survey indicate that employees perceive the racial climate in the workplace to be low, the organization could respond to those concerns with a diversity training that discusses ways to make the workplace climate more inclusive and help employees to feel like everyone has equal opportunities.

Perceptions of microaggressions also affected the workplace outcomes for employees of color. High amounts of microaggressions were correlated with higher turnover intentions, lower job satisfaction, and lower person-organization fit. Experiencing microaggressions negatively impacts employees' experiences in the workplace and it would be beneficial for organizations to hold didactic trainings or workshops to discuss microaggressions and explain how something seemingly innocuous, or even intended to be complimentary, could be perceived as a microaggression to the individual on the receiving end (Purdie-Vaughns et al., 2008; Sue, 2011).

Implications for Research

This study holds various implications for research. This study provides support for future research on workplace experiences, especially for people of color. It also provides support for studies examining racial/ethnic microaggressions, racial climate, and racial identity attitudes. This study examined experiences for employees specifically in STEM fields, but it would be beneficial to explore these variables in a variety of workplace settings to see if the results are similar and generalizable or if the results of this study are limited to this sample. The findings of this study could be expanded by examining the workplace variables and attitudes in different configurations, such as examining any indirect effects using path modeling or looking at other variables as possible moderators. Other variables such as psychological wellbeing or distress could also be included in future research to better understand the intrapsychic functioning resulting from workplace experiences.

Future research also has the opportunity to further explore racial identity attitudes. While the findings of this study give us some information about the nature of racial identity attitudes and how they may manifest, racial identity attitudes can be studied in a number of settings and it would be beneficial to study racial identity attitudes more thoroughly. Dissonance and Immersion attitudes interacted with other variables as predicted in regards to the bivariate correlations and Dissonance interacted with other variables largely as predicted in the path model, but Conformity and Internalization attitudes were largely not significant. Further research could explore Conformity and Internalization attitudes in more depth to gain a nuanced understanding of how these attitudes may manifest for individuals. For example, it could be useful to explore the racial identity attitudes in relation to other measures of workplace experiences or on psychological outcomes such as stress.

Regarding racial identity attitudes, it may also be interesting for future research to examine constellations of racial identity attitudes as opposed to examining one identity status at a time. Because individuals hold different levels of all racial identity attitude statuses at the same time, a profile analysis of racial identity attitudes could be a way in which to examine racial identity in a more nuanced way. For example, there may be patterns of being high in one attitude status and low in another across different subjects, and analyzing racial identity statuses in this way could possibly give a deeper understanding of how racial identity attitudes operate in different settings.

Finally, future research on STEM workplace experiences could examine other identities besides race, as well as the intersection of such identities, including gender, sexuality, age etc. There could be meaningful differences in the results when other identities are included and compared, and results could also lead to interesting workplace implications.

Limitations and Directions for Future Research

It is important to examine the limitations of this study in order to gain a full understanding of the results. One limitation of the present study is the sample size. While the overall sample size for the study was large, the sample size for participants identifying as people of color was only 192 participants. Despite the broad definition of STEM workplaces and the fact that STEM is a rapidly growing field, it was challenging to recruit people of color in STEM fields for this study, which reflects the demographics in STEM workplaces and the lack of diversity (Pew Research Center, 2018; Scott et al., 2017). However, with a larger sample size, it is possible that the results would be different.

A second limitation to the sampling of this study was the way in which STEM jobs were defined. For the purposes of this study, anyone who identified as working in a STEM field was eligible to participate, from a programmer at an engineering firm to someone working in HR at a tech company. Because of the variance in jobs and the different demands and experiences of jobs within the STEM industry, type of job may have been a part of the exclusion criteria or could have been examined more closely. Future research may endeavor to examine both job and industry when studying STEM fields, as the workplace experiences across different jobs, even in the same organization, may be very different from one another.

Another limitation of the current study is that recruitment and completion of the survey were done online and required a phone or computer to complete the survey. While conducting Internet research has advantages such as having diverse participants from a wide variety of geographical areas, reducing any potential stigma for participating in psychological research, and increasing accessibility because participants can complete the survey on any device with Internet, there are also some limitations. It is possible that participants misrepresented their identity or answered untruthfully, possibly even with the intention of negatively impacting the research. This was evidenced by occasional strongly worded negative comments towards the researcher and about this study on social media platforms. For example, when recruiting on a page specifically for aerospace engineers, one commenter stated that the measures were “completely invalid” and hoped that their responses “tanked” the study to “teach you (the researcher) a lesson.” Data cleaning accounted for any suspicious patterns in answers, but nonetheless, it is possible that because of the anonymous nature of this study participants could have purposely misrepresented themselves to impact the data. Conducting research online may have also impacted the ability to engage potential participants who do not regularly have access

to the Internet or who do not use various social media platforms, which were the primary tools for recruitment.

Another limitation of this study is the measurement of racial identity attitudes. There are a number of theories about racial identity development, each with their own tools to assess individuals' attitudes towards racial identity (e.g. Sellers et al. multidimensional model of Black identity (1998), Cross & Vandiver psychological nigrescence model (2001)). Janet Helms' racial identity attitude status measure was chosen for its validity and wide use over the years but there are other measures that could have been chosen, such as the multidimensional model of Black identity (Sellers et al., 1998). Helms' racial identity attitudes measure, while widely used, is not without critique from other scholars and it may be useful to examine racial identity attitudes using other measures (Ponterotto & Park-Taylor, 2007). It would be advantageous for future research to examine other racial identity attitude theories, which may correspond to different viewpoints and internal processes than the Helms model does.

Another possible limitation is the choice of statistical analyses. While bivariate correlations were used to examine the relationships between the variables, it is possible that regression may have shed more light on the ways in which the predictor variables work together. There may have been different, more significant results if regression analysis was used. This is an option for future research.

Finally, there are possible limitations based on the measurements in this study. One possible limitation is common method variance, in which variance and correlations may be inflated due to methods used to measure different constructs (Podsakoff et al., 2003). Correlations that may seem meaningful could actually be attributed to common method variance. Another limitation is cross-sectional nature of the data. This means that temporal or causal

hypotheses cannot be conclusively addressed (Weston & Gore, 2006). It is not possible to make determinations as to how the variables in the study may “cause” another. This could be addressed in future research by using a longitudinal method.

Another measurement limitation is the possibility that adapting the Racial and Ethnic Microaggressions Scale by asking participants to only think about workplace microaggressions may have impacted the results. Because some items refer to things that may not make sense in the workplace (e.g. seeing people of your same race on TV), the directive to think about how each item takes place in the workplace may have been confusing to participants and created noise in the results. Future research may address this limitation by only presenting the items that are relevant for the workplace.

Summary and Conclusions

The current study tested the relationships between workplace variables and racial identity attitude statuses, specifically in STEM fields, as STEM has been the fastest growing job industry in the last ten years (Langdon et al., 2011). The purpose of this study was to expand on previous literature by examining the role of racial identity attitudes in the workplace, which have been infrequently studied. A sample of employees in STEM fields was recruited nationally, and subsequently through bivariate correlations and structural equation modeling, the study explored the relationships between workplace variables of racial climate, job satisfaction, turnover intentions, and person-organization fit, experiences of microaggressions, and racial identity attitudes.

Results indicated that there were positive correlations between job satisfaction, racial climate, and person-organization fit and negative correlations between these variables and

turnover intentions. For people of color in the sample, the former results remain the same and microaggressions, a variable specific to those identifying as people of color, was negatively correlated with job satisfaction, racial climate, and P-O fit while positively correlated with turnover intentions. The only significant difference between White employees and employees of color was their rating of racial climate in the workplace, with White employees rating racial climate significantly higher than employees of color.

Results of the path analysis indicate that there were positive direct associations between the predictor variable of racial climate and the outcome variables of job satisfaction and person-organization fit and a negative direct association between racial climate and turnover intentions. There was a direct positive association between the predictor variable of racial/ethnic microaggressions and the outcome variable of turnover intentions and a negative direct association between REMS and person-organization fit. Dissonance attitudes moderated the relationships between racial climate and the outcome variables and also moderated the relationship between REMS and job satisfaction. Immersion attitudes moderated the relationship between microaggressions and job satisfaction. These results indicate that for those with high Dissonance attitudes, characterized by confusion or anxiety as an individual becomes more aware of racial dynamics, racial climate and experiences of microaggressions are significant factors on job satisfaction, turnover intentions, and person-organization fit. These results also indicate that for those with high Immersion attitudes, characterized by anger towards White people and a high identification with one's own race, experiences of microaggressions significantly effect job satisfaction.

Overall, the results indicate that both individual variables (e.g. job satisfaction, perceptions of person-organization fit, turnover intentions, racial identity attitudes) and

organization variables (e.g. racial climate, experiences of microaggressions) impact one's satisfaction in the workplace. When racial climate is perceived as high, job satisfaction and person-organization fit increase while turnover intentions decrease. As workplaces become more racially diverse, it seems that having a positive racial climate will be integral to retaining employees. Experiences of microaggressions in the workplace were associated with lower job satisfaction, lower person-organization fit, and higher turnover intentions, indicating that microaggressions have a detrimental effect on workplace satisfaction. While a workplace may be a space where employees are encouraged to grow and be challenged by the work, it is not a space where they need to be challenged by an invalidating environment. It would be advantageous for organizations to examine the ways in which they foster a positive racial climate and address issues like microaggressions in the workplace. If the STEM industry is to prosper, continue to grow, and retain skilled and talented employees, it is essential that racial dynamics in the workplace be examined and addressed.

References

ABC News/Washington Post Poll (2010), January 12-15, available at:

www.pollingreport.com/race.htm

Allen, D. G., Bryant, P. C., & Vardaman, J. M. (2010). Retaining talent: Replacing misconceptions with evidence-based strategies. *The Academy of Management Perspectives*, 24(2), 48-64.

Allen, N. J., & Meyer, J. P. (1990). The measurement and antecedents of affective, continuance and normative commitment to the organization. *Journal of Occupational and Organizational Psychology*, 63(1), 1-18. doi: 10.1111/j.2044-8325.1990.tb00506.x

Alvarez, A. N., & Helms, J. E. (2001). Racial identity and reflected appraisals as influences on Asian Americans' racial adjustment. *Cultural Diversity and Ethnic Minority Psychology*, 7(3), 217-231. doi: 10.1037//1099-9809.7.3.217

Anand, R., & Winters, M. (2008). A retrospective view of corporate diversity training from 1964 to the present. *Academy of Management Learning & Education*, 7, 356-372.

Babco, E. L. (2004). *Skills for the innovation economy: What the 21st century workforce needs and how to provide it*. Commission on Professionals in Science and Technology.

Bell, M. P., Harrison, D. A., & McLaughlin, M. E. (1997). Asian American attitudes toward affirmative action in employment: Implications for the model minority myth. *The Journal of Applied Behavioral Science*, 33(3), 356-377. doi: 10.1177/0021886397333006

Bergman, M. E., Palmieri, P. A., Drasgow, F., & Ormerod, A. J. (2007). Racial and ethnic harassment and discrimination: in the eye of the beholder?. *Journal of Occupational Health Psychology*, 12(2), 144-160. doi: 10.1037/1076-8998.12.2.144

- Bretz, R. D., & Judge, T. A. (1994). The role of human resource systems in job applicant decision processes. *Journal of Management*, 20(3), 531-551. doi: 10.1177/014920639402000301
- Burrow, A. L., & Ong, A. D. (2010). Racial identity as a moderator of daily exposure and reactivity to racial discrimination. *Self and Identity*, 9(4), 383-402. doi: 10.1080/15298860903192496
- Cable, D. M. & Judge, T. A. (1996). Person-organization fit, job choice decisions, and organizational entry. *Organizational Behavior and Human Decision Processes*, 67(3), 294-311. doi: 10.1006/obhd.1996.0081
- Cadinu, M., Maass, A., Rosabianca, A., & Kiesner, J. (2005). Why do women underperform under stereotype threat? Evidence for the role of negative thinking. *Psychological Science*, 16(7), 572-578. doi: 10.1111/j.0956-7976.2005.01577.x
- Caldwell, C. H., Kohn-Wood, L. P., Schmeelk-Cone, K. H., Chavous, T. M., & Zimmerman, M. A. (2004). Racial discrimination and racial identity as risk or protective factors for violent behaviors in African American young adults. *American Journal of Community Psychology*, 33(1-2), 91-105. doi: 10.1023/B:AJCP.0000014321.02367.dd
- Caplan, R. D. (1987). Person-environment fit theory and organizations: Commensurate dimensions, time perspectives, and mechanisms. *Journal of Vocational Behavior*, 31(3), 248-267. doi: 10.1016/0001-8791(87)90042-X
- Carter, R. T. & Reynolds, A. L. (2011). Race-related stress, racial identity status attitudes, and emotional reactions of Black Americans. *Cultural Diversity and Ethnic Minority Psychology*, 17(2), 156-162. doi: 10.1037/a0023358

- Chatman, J. A. (1991). Matching people and organizations: Selection and socialization in public accounting firms. *Administrative Science Quarterly*, 36, 459-484. doi: 10.5465/AMBPP.1989.4980837
- Chatman, J. A. (1989). Improving interactional organizational research: A model of person-organization fit. *The Academy of Management Review*, 14 (3), 333-349. doi: 128.59.222.107
- Chavous, T. M., Bernat, D. H., Schmeelk-Cone, K., Caldwell, C. H., Kohn-Wood, L., & Zimmerman, M. A. (2003). Racial identity and academic attainment among African American adolescents. *Child Development*, 74(4), 1076-1090. doi: 10.1111/1467-8624.00593
- Chen, X., & Weko, T. (2009). Stats in brief: Students who study science, technology, engineering, and mathematics (STEM) in postsecondary education. *Washington, DC, NCES, 161*.
- Chrobot-Mason, D., & Thomas, K. (2002). Minority employees in majority organizations: The intersection of individual and organizational racial identity in the workplace. *Human Resource Development Review*, 1 (3), 323-344. doi: 10.1177/1534484302013004
- Chrobot-Mason, D., Hays-Thomas, R., & Wilshik, H. R. (2008). Understanding and defusing resistance to diversity training and learning. In K. Thomas (Ed.), *Diversity resistance in organizations* (pp. 23-54). Mahwah, NJ: Lawrence Erlbaum.
- Chrobot-Mason, D., & Aramovich, N. P. (2013). The psychological benefits of creating an affirming climate for workplace diversity. *Group and Organization Management*, 38(6), 659-689. doi: 10.1177/1059601113509835

- Colarelli, S. M. (1984). Methods of communication and mediating processes in realistic job previews. *Journal of applied psychology*, 69(4), 633-642. doi: 10.1037/0021-9010.69.4.633
- Cox, T., & Nkomo, S. (1991). A race and gender-group analysis of the early career experience of MBAs. *Work and Occupations*, 18, 431-446. doi: 10.1177/0730888491018004004
- Cross Jr, W. E. (1978). The Thomas and Cross models of psychological nigrescence: A review. *Journal of Black Psychology*, 5(1), 13-31.
- Cross, W. E., Jr., & Vandiver, B. J. (2001). Nigrescence theory and measurement: Introducing the Cross Racial Identity Scale (CRIS). In J. G. Ponterotto, J. M. Casas, L. A. Suzuki, & C. M. Alexander (Eds.), *Handbook of multicultural counseling* (2nd ed.; pp. 371–393). Thousand Oaks, CA: Sage.
- Dawis, R. V., & Lofquist, L. H. (1976). Personality style and the process of work adjustment. *Journal of Counseling Psychology*, 23(1), 55-59. doi: 10.1037/0022-0167.23.1.55
- DeCuir-Gunby, J. T., & Gunby, N. W., Jr. (2016). Racial microaggressions in the workplace: A critical race analysis of the experiences of African American educators. *Urban Education*, 51(4), 390-414. doi: 10.1177/0042085916628610
- Dipboye, R. L., & Colella, A. (2005). The dilemmas of workplace discrimination. *Discrimination at work: The Psychological and Organizational Bases*, 425-462.
- Edwards, J. R., & Cable, D. M. (2009). The value of value congruence. *Journal of Applied Psychology*, 94 (3), 654-677. doi: 10.1037/a0014891

- Edwards, K. J., & Whitney, D. R. (1972). Structural analysis of Holland's personality types using factor and configural analysis. *Journal of Counseling Psychology*, 19(2), 136-145. doi: 10.1037/h0032637
- Elvira, M. M., & Cohen, L. E. (2001). Location matters: A cross-level analysis of the effects of organizational sex composition on turnover. *Academy of Management Journal*, 44(3), 591-605. doi: 10.2307/3069373
- Emerson, K. T., & Murphy, M. C. (2014). Identity threat at work: How social identity threat and situational cues contribute to racial and ethnic disparities in the workplace. *Cultural Diversity and Ethnic Minority Psychology*, 20(4), 508-520. doi: 10.1037/a0035403
- Fegley, S. (2006). Workplace diversity and changes to the EEO-I process survey report. Alexandria, VA: Society for Human Resource Management.
- Ferris, G. R., & Judge, T. A. (1991). Personnel/human resources management: A political influence perspective. *Journal of Management*, 17(2), 447-488. doi: 10.1177/014920639101700208
- Fouad, N. A. (2002). Cross-cultural differences in vocational interests: Between-group differences on the Strong Interest Inventory. *Journal of Counseling Psychology*, 49(3), 283-289. doi: 10.1037/0022-0167.49.3.282
- Franklin-Jackson, D., & Carter, R. T. (2007). The relationships between race-related stress, racial identity, and mental health for Black Americans. *Journal of Black Psychology*, 33(1), 5-26. doi: 10.1177/0095798406295092
- Gaertner, S. L., & Dovidio, J. F. (2000). *Reducing intergroup bias: The common Ingroup Identity Model*. Philadelphia: Psychology Press.
- Garbee, E. (2017). The Problem with the "Pipeline.". *Slate.com*.

- Gibson, J. W., Greenwood, R. A., & Murphy, E. F. (2009). Generational differences in the workplace: Personal values, behaviors, and popular beliefs. *Journal of Diversity Management, 4* (3).
- Goldberg, C. B. (2005). Relational demography and similarity attraction in interview assessments and subsequent offer decisions: Are we missing something? *Group & Organization Management, 30* (6), 597-624. doi: 10.1177/1059601104267661
- Graves, L. M., & Powell, G. N. (1995). The effect of sex similarity on recruiters' evaluations of actual applicants: A test of the similarity-attraction paradigm. *Personnel Psychology, 48*, 85-98. doi: 10.1111/j.1744-6570.1995.tb01747.x
- Griffeth, R. W., Hom, P. W., & Gaertner, S. (2000). A meta-analysis of antecedents and correlates of employee turnover: Update, moderator tests, and research implications for the next millennium. *Journal of Management, 26*(3), 463-488. doi: 10.1177/014920630002600305
- Griffeth, R. W., & Hom, P. W. (2001). *Retaining valued employees*. Sage Publications.
- Greenwald, A. G., & Banaji, M. R. (1995). Implicit social cognition: attitudes, self-esteem, and stereotypes. *Psychological Review, 102*, 4-27. doi: 10.1037/0033-295X.102.1.4
- Grossman, J. & Porche, M. (2013). Perceived gender and racial/ethnic barriers to STEM success. *Urban Education, 49*(6), 698-727. doi: 10.1177/0042085913481364
- Hackman, J. R., & Oldham, G. R. (1976). Motivation through the design of work: Test of a theory. *Organizational Behavior and Human Performance, 16*, 250-279.
- Helms, J. E. (1990). *Black and White racial identity: Theory, research, and practice*. Greenwood Press.

- Helms, J. E., & Piper, R. E. (1994). Implications of racial identity theory for vocational psychology. *Journal of Vocational Behavior*, 44(2), 124-138. doi: 10.1006/jvbe.1994.1009
- Helms, J. E. (1995). An update of Helm's White and people of color racial identity models. In J.G. Ponterotto, J.M. Casas, L.A. Suzuki, C.M. Alexander,(Eds.), *Handbook of multicultural counseling* (pp. 181-191).
- Hoffman, B. J., and Woehr, D. J. (2006). A quantitative review of the relationship between person-organization fit and behavioral outcomes. *Journal of Vocational Behavior*, 68, 389-399. doi:10.1016/j.jvb.2005.08.003
- Hogg, M. A., & Terry, D. I. (2000). Social identity and self-categorization processes in organizational contexts. *Academy of Management Review*, 25(1), 121-140. doi: 10.5465/AMR.2000.2791606
- Holcomb-McCoy, C., & Addison-Bradley, C. (2005). African American counselor educators' job satisfaction and perceptions of departmental racial climate. *Counselor Education and Supervision*, 45(1), 2-15. doi: 10.1002/j.1556-9678.2005.tb00126.x
- Holder, A., Jackson, M. A., & Ponterotto, J. G. (2015). Racial microaggression experiences and coping strategies of Black women in corporate leadership. *Qualitative Psychology*, 2(2), 164-180. doi: 10.1037/qup0000024
- Holder, A. M. B., & Nadal, K. L. (2016). Systemic and workplace microaggressions in the workplace: Recommendations for best practices for institutions and organizations. In E. L. Short & L. Wilton (Eds.). *Talking about structural inequalities in everyday life: New*

- politics of race in groups, organizations, and social systems* (pp.47-65). Charlotte, NC: Information Age.
- Holder, J. C., & Vaux, A. (1998). African American professionals: Coping with occupational stress in predominantly white work environments. *Journal of Vocational Behavior*, 53(3), 315-333.
- Holland, J. L. (1997). *Making vocational choices: A theory of vocational personalities and work environments*. Psychological Assessment Resources.
- Holland, J. L. (1959). A theory of vocational choice. *Journal of Counseling Psychology*, 6(1), 35-45. doi: 10.1037/h0040767
- Holland, J. L. (1973). *Making vocational choices*. Prentice-Hall..
- Hom, P. W., Mitchell, T. R., Lee, T. W., & Griffeth, R. W. (2012). Reviewing employee turnover: Focusing on proximal withdrawal states and an expanded criterion. *Psychological Bulletin*, 138(5), 831-858. doi: 10.1037.a0027983
- Hom, P. W., Roberson, L., & Ellis, A. D. (2008). Challenging conventional wisdom about who quits: revelations from corporate America. *Journal of Applied Psychology*, 93(1), 1-34. doi: 10.1037/0021-9010.93.1.1
- Hooper, D., Coughlan, J. and Mullen, M. R. (2008). Structural equation modeling: Guidelines for determining model fit. *The Electronic Journal of Business Research Methods*, 6(1). 53 – 60.
- Hornsey, M. J., & Hogg, M. A. (2000). Assimilation and diversity: An integrative model of subgroup relations. *Personality and Social Psychology Review*, 4(2), 143-156. doi: 10.1207/S15327957PSPR0402_03

Jackson, S. E., Brett, J. F., Sessa, V. I., Cooper, D. M., Julin, J. A., & Peyronnin, K. (1991).

Some differences make a difference: Individual dissimilarity and group heterogeneity as correlates of recruitment, promotions, and turnover. *Journal of Applied Psychology*, 76(5), 675-689. doi: 10.1037/0021-9010.76.5.675

Johnson, D. (2011). Women of color in science, technology, engineering, and mathematics (STEM). *New Directions for Institutional Research*, Winter 2011, 152. doi: 10.1002/ir.410

Kristof, A. L. (1996). Person-organization fit: An integrative review of its conceptualizations, measurement, and implications. *Personnel Psychology*, 49(1), 1-49. doi: 10.1111/j.1744-6570.1996.tb01790.x

Kristof-Brown, A. L., Zimmerman, R. D., & Johnson, E. C. (2005). Consequences of individuals' fit at work: A meta-analysis of person-job, person-organization, person-group, and person-supervisor fit. *Personnel Psychology*, 58, 281-342. doi: 10.1111/j.1744-6570.2005.00672.x

Langdon, D., McKittrick, G., Beede, D., Khan, B., & Doms, M. (2011). STEM: Good Jobs Now and for the Future. ESA Issue Brief# 03-11. *US Department of Commerce*.

Lovelace, K., & Rosen, B. (1996). Differences in achieving person-organization fit among diverse groups of managers. *Journal of Management*, 22(5), 703-722. doi: 10.1016/S0149-2063(96)90019-7

Lyons, H. Z. & O'Brien, K. M. (2006). The role of person-environment fit in the job satisfaction and tenure intentions of African American employees. *Journal of Counseling Psychology*, 53(4), 387-396.

- Lyons, H. Z., Velez, B. L., Mehta, M., & Neill, N. (2014). Tests of the theory of work adjustment with economically-distressed African Americans. *Journal of Counseling Psychology, 61*, 473-483, doi:10.1037/cou0000017
- Manese, J. E. (1984). *The relationship between Black students' racial identity attitudes and vocational exploration*. Unpublished Masters Thesis, University of Maryland, College Park, MD.
- McKay, P. F., Avery, D. R., Tonidandel, S., Morris, M. A., Hernandez, M., & Hebl, M. R. (2007). Racial differences in employee retention: Are diversity climate perceptions the key?. *Personnel Psychology, 60*(1), 35-62. doi: 10.1111/j.1744-6570.2007.00064.x
- Meister, J. (August 14, 2012). Job hopping is the “new normal” for millennial: Three ways to prevent a human resources nightmare. *Forbes*. Retrieved from <http://www.forbes.com/sites/jeannemeister/2012/08/14/job-hopping-is-the-new-normal-for-millennials-three-ways-to-prevent-a-human-resource-nightmare/#6f1a4e335508> on November 11, 2016.
- Metcalf, H. (2011). Stuck in the pipeline: A critical review of STEM workforce literature. *Interactions: UCLA Journal of Education and Information studies, 6*(2). Retrieved from <https://escholarship.org/uc/item/6zf09176>.
- Mor Barak, M. E., Cherin, D. A., & Berkman, S. (1998). Organizational and personal dimensions in diversity climate: Ethnic and gender differences in employee perceptions. *The Journal of Applied Behavioral Science, 34*(1), 82-104. doi: 10.1177/0021886398341006
- Mowday, R. T., Steers, R. M., & Porter, L. W. (1979). The measurement of organizational commitment. *Journal of Vocational Behavior, 14*(2), 224-247.

- Muchinsky, P. M., & Monahan, C. J. (1987). What is person-environment congruence? Supplementary versus complementary models of fit. *Journal of Vocational Behavior*, 31(3), 268-277.
- Nadal, K. L., Issa, M., Leon, J., Meterko, V., Wideman, M., & Wong, Y. (2011). Sexual orientation microaggressions: “Death by a thousand cuts” for lesbian, gay, and bisexual youth. *Journal of LGBT Youth*, 8, 1-26.
- Nadal, K. L. (2011). The Racial and Ethnic Microaggressions Scale (REMS): Construction, reliability, and validity. *Journal of Counseling Psychology*, 58(4), 470-480. doi: 10.1037/a0025193
- Nadal, K. L., Griffin, K. E., Wong, Y., Hamit, S., & Rasmus, M. (2014). The impact of racial microaggressions on mental health: Counseling implications for clients of color. *Journal of Counseling & Development*, 92(1), 57-66. doi: 10.1002/j.1556-6676.2014.00130.x
- National Science Foundation. (2017). *Data: Women, minorities, and persons with disabilities in science and engineering*. Retrieved from: <https://nces.nsf.gov/pubs/nsf19304/data>
- Nauta, M. M. (2010). The development, evolution, and status of Holland’s theory of vocational personalities: Reflections and future directions for counseling psychology. *Journal of Counseling Psychology*, 57(1), 11-22. doi: 10.1037/a0018213
- Neville, H. A., Lilly, R. L., Duran, G., Lee, R. M., & Browne, L. (2000). Construction and initial validation of the color-blind racial attitudes scale (CoBRAS). *Journal of Counseling Psychology*, 47(1), 59-70. doi: 10.1037/0022-0167.47.1.59
- Neville, H.A., Hepner, P.P., & Wang, L. (1997). Relations among racial identity attitudes, perceived stressors, and coping styles in African American college students. *Journal of Counseling & Development*, 75, 303-311.

- Offermann, L. R., Basford, T. E., Graebner, R., Jaffer, S., De Graaf, S. B., & Kaminsky, S. E. (2014). See no evil: Color blindness and perceptions of subtle racial discrimination in the workplace. *Cultural Diversity and Ethnic Minority Psychology, 20*(4), 499-507. doi:10.1037/a0037237.
- Ostroff, C. L., & Judge, T. (Eds.). (2007). *Perspectives on Organizational Fit*. Psychology Press.
- Perry, E. L., Dokko, G., & Golom, F. D. (2012). The aging worker and person–environment fit. *The Oxford handbook of work and aging*, 187-212.
- Perry, J. C., Vance, K. S., & Helms, J. E. (2009). Using the People of Color Racial Identity Attitude Scale among Asian American college students: An exploratory factor analysis. *American Journal of Orthopsychiatry, 79*(2), 252-260. doi: 10.1037/10016147
- Pervin, L. A. (1968). Performance and satisfaction as a function of individual-environment fit. *Psychological Bulletin, 69*(1), 56-68.
- Pew Research Center (2018). *7 facts about the STEM workforce*. Retrieved from <http://www.pewresearch.org/fact-tank/2018/01/09/7-facts-about-the-stem-workforce/>.
- Pew Research Center (2018). *Blacks in STEM jobs are especially concerned about diversity and discrimination in the workplace*. Retrieved from <http://www.pewsocialtrends.org/2018/01/09/blacks-in-stem-jobs-are-especially-concerned-about-diversity-and-discrimination-in-the-workplace/>
- Pieterse, A. L., Carter, R. T., Evans, S. A., & Walter, R. A. (2010). An exploratory examination of the associations among racial and ethnic discrimination, racial climate, and trauma-related symptoms in a college student population. *Journal of Counseling Psychology, 57*(3), 255-263. doi: 10.1037/a0020040

- Ponterotto, J. & Park-Taylor, J. (2007). Racial and ethnic identity theory, measurement, and research in counseling psychology: Present status and future directions. *Journal of Counseling Psychology*, 54(3), 282-294. doi: 10.1037/0022-0167.54.3.282
- Podsakoff, P. M., MacKenzie, S. B., Lee, J. Y., & Podsakoff, N. P. (2003). Common method biases in behavioral research: A critical review of the literature and recommended remedies. *Journal of applied psychology*, 88(5), 879.
- Prince, J. L. (1977). *The study of turnover*. Ames, IA: Iowa State University Press.
- MacKenzie, S. B., & Podsakoff, P. M. (2012). Common method bias in marketing: causes, mechanisms, and procedural remedies. *Journal of retailing*, 88(4), 542-555.
- Ragins, B. R., Gonzalez, J. A., Ehrhardt, K. and Singh, R. (2012), Crossing the threshold: The spillover of community racial diversity and diversity climate to the workplace. *Personnel Psychology*, 65, 755–787. doi:10.1111/peps.12001
- Rivera, D. P., Forquer, E. E., & Rangel, R. (2010). Microaggressions and the life experience of Latina/o Americans. In D. W. Sue (Ed.) *Microaggressions and marginality: Manifestation, dynamics, and impact* (pp. 59-83), New York, NY: Wiley.
- Root, M. P. P. (2003). Racial and ethnic origins of harassment in the workplace. In D. B. Pope Davis, H. L. K. Coleman, W. M. Liu, & R. L. Toporek (Eds.), *Handbook of multicultural competencies in counseling and psychology* (pp. 478-492). Thousand Oaks, CA: Sage.
- Rounds, J. B., Dawis, R., & Lofquist, L. H. (1987). Measurement of person-environment fit and prediction of satisfaction in the Theory of Work Adjustment. *Journal of Vocational Behavior*, 31(3), 297-318.

- Saks, A. M., & Ashforth, B. E. (1997). A longitudinal investigation of the relationships between job information sources, applicant perceptions of fit, and work outcomes. *Personnel Psychology*, 50(2), 395-426.
- Schein, E. H. (1996). Culture: The missing concept in organization studies. *Administrative Science Quarterly*, 41 (2), 229-240. doi: 10.2307/2393715
- Schneider, B. (1987). The people make the place. *Personnel Psychology*, 40(3), 437-453.
- Schneider, B., Goldstein, H. W., & Smith, D. B. (1995). The ASA framework: An update. *Personnel Psychology*, 48, 747- 773. doi: 10.1111/j.1744-6570.1995.tb01780.x
- Scott, A., Klein, F. K., & Onovakpuri, U. (2017). Tech leavers study. Kapor Center for Social Impact.
- Sellers, R. M., Copeland-Linder, N., Martin, P. P., & Lewis, R. L. (2006). Racial identity matters: The relationship between racial discrimination and psychological functioning in African American adolescents. *Journal of Research on Adolescents*, 16 (2), 187-216. doi: 10.1111/j.1532-7795.2006.00128.x
- Sellers, R. M. & Shelton, J. N. (2003). The role of racial identity in perceived racial discrimination. *Journal of Personality and Social Psychology*, 84 (5). 1079-1092. DOI: 10.1037/0022-3514.84.5.1079
- Sellers, R. M., Caldwell, C. H., Schmeelk-Cone, K. H., & Zimmerman, M. A. (2003). Racial Identity, Racial Discrimination, Perceived Stress, and Psychological Distress among African American Young Adults. *Journal of Health and Social Behavior*, 44 (3), pp 302-317.

- Singh, B., Winkel, D. E., & Selvarajan, T. T. (2013). Managing diversity at work: Does psychological safety hold the key to racial differences in employee performance? *Journal of Occupational and Organizational Psychology*, 86, 242-263. doi: 10.1111/joop.12015
- Steers, R.M., & Mowday, R. T. (1981). Employee turnover and post-decision accommodation process. In L. Cummings & B. Staw (Eds.), *Research in organizational behavior* (Vol. 3). Greenwich, Conn.: JAI Press, 235-281
- Stevens, F. G., Plaut, V. C., & Sanchez-Burks, J. (2008). Unlocking the benefits of diversity: All-inclusive multiculturalism and positive organizational change. *The Journal of Applied Behavioral Science*, 44(1), 116-133. doi: 10.1177/0021886308314460
- Strayhorn, T. (2010). Work in progress- Social barriers and supports to underrepresented minorities' success in STEM fields. 40th AEEE/IEEE Frontiers in Education Conference.
- Su, R., Murdock, C. D., & Rounds, J. (2015). Person-environment fit. *APA handbook of career intervention*, 1, 81-98.
- Sue, D. W., Capodilupo, C. M., Torino, G. C., Bucceri, J. M., Holder, A., Nadal, K. L., & Esquilin, M. (2007). Racial microaggressions in everyday life: implications for clinical practice. *American Psychologist*, 62(4), 271-286.
- Sue, D. W. (2012) *Microaggressions in everyday life: Race, gender, and sexual orientation*. Hoboken, New Jersey: Wiley & Sons.
- Sue, D. W., Bucceri, J., Lin, A. I., Nadal, K. L., & Torino, G. C. (2009). Racial microaggressions and the Asian American experience. *Cultural Diversity and Ethnic Minority Psychology*, 13, 72-81.

- Sue, D. W., Capodilupo, C. M., & Holder, A. (2008). Racial microaggressions in the life experience of Black Americans. *Professional Psychology: Research and Practice*, 39(3), 329.
- Sue, D. W., Lin, A. I., Torino, G. C., Capodilupo, C. M., & Rivera, D. P. (2009). Racial microaggressions and difficult dialogues on race in the classroom. *Cultural Diversity and Ethnic Minority Psychology*, 15(2), 183.
- Sue, D. W., & Sue, D. (2016). *Counseling the culturally diverse: Theory and practice* (7th ed.). Hoboken, New Jersey: Wiley.
- Tajfel, H. (1974). Social identity and intergroup behaviour. *Information (International Social Science Council)*, 13(2), 65-93.
- Tett, R. P., & Meyer, J. P. (1993). Job satisfaction, organizational commitment, turnover intention, and turnover: path analyses based on meta-analytic findings. *Personnel Psychology*, 46(2), 259-293.
- Thompson, C. E. (1985). *Attitudes towards academic undecidedness and identity foreclosure among Black students*. Unpublished Masters Thesis, University of Maryland, College Park, MD.
- Thomas, K. M., & Plaut, V. C. (2008). The many faces of diversity resistance in the workplace. In K.M. Thomas (Ed.), *Diversity resistance in organizations* (pp. 1-22). New York, NY: Taylor & Francis Group.
- Ton, Z., & Huckman, R. S. (2008). Managing the impact of employee turnover on performance: The role of process conformance. *Organization Science*, 19(1), 56-68. doi: 10.1287/orsc.1070.0294

- Torres, L., Driscoll, M. W., & Burrow, A. L. (2010). Racial microaggressions and psychological functioning among highly achieving African-Americans: A mixed-methods approach. *Journal of Social and Clinical Psychology, 29*(10), 1074-1099. doi: 10.1521/jscp.2010.29.10.1074
- Torres, L., & Ong, A. D. (2010). A daily diary investigation of Latino ethnic identity, discrimination, and depression. *Cultural Diversity and Ethnic Minority Psychology, 16*(4), 561-568. doi: 10.1037/a0020652
- Watts, R. J., & Carter, R. T. (1991). Psychological aspects of racism in organizations. *Group & Organization Studies, 16*(3), 328-344. doi: 10.1177/105960119101600307
- Weston, R., & Gore Jr, P. A. (2006). A brief guide to structural equation modeling. *The Counseling Psychologist, 34*(5), 719-751. doi: 10.1177/0011000006286345
- Williams, K. D., & Sommer, K. L. (1997). Social ostracism by coworkers: Does rejection lead to loafing or compensation?. *Personality and Social Psychology Bulletin, 23*(7), 693-706. doi: 10.1177/0146167297237003
- U.S. Department of Labor, Employment, and Training Administration by Jobs for the Future. (2007). *The STEM workforce challenge: The role of the public workforce system in a national solution for a competitive science, technology, engineering, and mathematics (STEM) workforce*. Retrieved from https://www.doleta.gov/youth_services/pdf/STEM_Report_4%2007.pdf
- Utsey, S. O., Chae, M. H., Brown, C. F., & Kelly, D. (2002). Effect of ethnic group membership on ethnic identity, race-related stress and quality of life. *Cultural Diversity and Ethnic Minority Psychology, 8*(4), 366-377. doi: 10.1037/1099-9809.8.4.367

Vinson, T. S., & Neimeyer, G. J. (2000). The relationship between racial identity development and multicultural counseling competency. *Journal of Multicultural Counseling and Development*, 28(3), 177-192.

APPENDIX A

Informed Consent *Teachers College, Columbia University*

PRINCIPLE INVESTIGATOR: Rebecca Semel, M.S.Ed.

DESCRIPTION OF THE RESEARCH: You are invited to participate in a research study with the purpose of learning more about the work experiences of people of color. Participation in this study is limited to individuals aged 18 years and older who identify as people of color, reside in the United States, and are employed, either part- or full-time. This study is being conducted by a doctoral candidate at Teachers College, Columbia University. This study has been approved by the Institutional Review Board of Teachers College, Columbia University (Protocol #XX-XXX).

RISKS AND BENEFITS: The risks and discomfort associated with participation in this study are similar to those involved in participating in a discussion about race in the workplace. Participation is completely voluntary, and you can refuse to answer any of the questions. You may also stop taking the survey at any point. If you would like to stop taking the survey, you can choose the 'end survey' option at any time, or simply close your browser. There are no direct benefits to participating in this study, although you may learn something about yourself. The information you provide may help improve researchers' understanding about the experiences of people of color in the workplace.

DATA STORAGE TO PROTECT CONFIDENTIALITY: All survey responses will be confidential. No identifiers (e.g. name, address, email, date of birth, or social security number) will be collected using the survey. Data will be saved electronically and will be encrypted and password protected. The data collected will be stored in the HIPAA- compliant, Qualtrics-secure database until it has been deleted by the Primary Investigator. Only the Principal Investigator and research staff will have access to the data.

TIME INVOLVEMENT: Your participation will take approximately 20-30 minutes.

HOW WILL RESULTS BE USED: The results of the study may be presented at conferences and/or may be published in journals or articles and used for educational purposes.

If you have any questions or concerns related to the survey, you are encouraged to contact Rebecca Semel, M.S.Ed., the Principal Investigator of this study, at 212-678-4111 or via email at rs3463@tc.columbia.edu.

APPENDIX B

Perceptions of Fit (Saks & Ashforth, 1997)

Please answer the following questions by choosing what you feel is the best response. In this questionnaire, your organization is the setting where you work.

1= To a Very Little Extent	2= To a Little Extent	3= Neutral	4= To a Large Extent	5= To a Very Large Extent	
<hr/>					
1. To what extent does your organization measure up to the kind of organization you were seeking?	1	2	3	4	5
2. To what extent are the values of your organization similar to your own values?	1	2	3	4	5
3. To what extent does your personality match the personality or image of the organization?	1	2	3	4	5
4. To what extent does your organization fulfill your needs?	1	2	3	4	5
5. To what extent is your organization a good match for you?	1	2	3	4	5

APPENDIX C

PRIAS Social Attitudes Inventory (Helms, 2005)

Instructions: This questionnaire is designed to measure people's social and political attitudes concerning race and ethnicity. Since different people have different opinions, there are no right or wrong answers. Use the scale below to respond to each statement according to the way you see things. Be as honest as you can.

	1= Strongly disagree	2= Disagree	3= Neither agree nor disagree	4= Agree	5= Strongly agree
1. In general, I believe that Whites are superior to other racial groups	1	2	3	4	5
2. I feel more comfortable being around Whites than I do being around people of my own race.	1	2	3	4	5
3. In general, people of my race have not contributed very much to White society	1	2	3	4	5
4. I am embarrassed to be the race I am.	1	2	3	4	5
5. I would have accomplished more in life if I had been born White.	1	2	3	4	5
6. Whites are more attractive than people of my race.	1	2	3	4	5
7. People of my race should learn to think and act like Whites.	1	2	3	4	5
8. I limit myself to White activities.	1	2	3	4	5
9. I think racial minorities blame Whites too much for their problems.	1	2	3	4	5
10. I feel unable to involve myself in Whites' experiences, and am increasing my involvement in experiences involving people of my race.	1	2	3	4	5
11. When I think about how Whites have treated people of my race, I feel an overwhelming anger.	1	2	3	4	5
12. I want to know more about my culture	1	2	3	4	5
13. . I limit myself to activities involving people of my own race.	1	2	3	4	5
14. Most Whites are untrustworthy	1	2	3	4	5
15. White society would be better off if it were based on the cultural values of my people	1	2	3	4	5
16. I am determined to find my cultural identity.	1	2	3	4	5
17. Most Whites are insensitive.	1	2	3	4	5

18. I reject all White values	1	2	3	4	5
19. My most important goal in life is to fight the oppression of my people.	1	2	3	4	5
20. I believe that being from my cultural background has caused me to have many strengths.	1	2	3	4	5
21. I am comfortable with people regardless of their race.	1	2	3	4	5
22. People, regardless of their race, have strengths and limitations.	1	2	3	4	5
23. I think people of my culture and the White culture differ from each other in some ways, but neither group is superior	1	2	3	4	5
24. My cultural background is a source of pride to me.	1	2	3	4	5
25. People of my culture and White culture have much to learn from each other	1	2	3	4	5
26. Whites have some customs that I enjoy	1	2	3	4	5
27. I enjoy being around people regardless of their race.	1	2	3	4	5
28. Every racial group has some good people and some bad people	1	2	3	4	5
29. Minorities should not blame Whites for all of their social problems	1	2	3	4	5
30. I do not understand why Whites treat minorities as they do.	1	2	3	4	5
31. I am embarrassed about some of the things I feel about my people.	1	2	3	4	5
32. I am not sure where I really belong	1	2	3	4	5
33. I have begun to question my beliefs.	1	2	3	4	5
34. Maybe I can learn something from people of my race	1	2	3	4	5
35. White people can teach me more about surviving in this world than people of my own race can, but people of my race can teach me more about being human.	1	2	3	4	5
36. I don't know whether being the race I am is an asset or a deficit.	1	2	3	4	5
37. Sometimes I think Whites are superior and sometimes I think they're inferior to people of my race.	1	2	3	4	5
38. Sometimes I am proud of the racial group to which I belong and sometimes I am ashamed of it	1	2	3	4	5
39. Thinking about my values and beliefs takes up a lot of my time.	1	2	3	4	5
40. I'm not sure how I feel about myself.	1	2	3	4	5

41. White people are difficult to understand	1	2	3	4	5
42. I find myself replacing old friends with new ones who are from my culture	1	2	3	4	5
43. I feel anxious about some of the things I feel about people of my race.	1	2	3	4	5
44. When someone of my race does something embarrassing in public, I feel embarrassed	1	2	3	4	5
45. When both White people and people of my race are present in a social situation, I prefer to be with my own racial group	1	2	3	4	5
46. My values and beliefs match those of Whites more than they do people of my race	1	2	3	4	5
47. The way Whites treat people of my race makes me angry.	1	2	3	4	5
48. I only follow the traditions and customs of people of my racial group.	1	2	3	4	5
49. When people of my race act like Whites I feel angry.	1	2	3	4	5
50. I am comfortable being the race I am.	1	2	3	4	5

APPENDIX D

Racial and Ethnic Microaggressions Scale (REMS)

Instructions: Think about your experiences with race. Please read each item and think of how many times this event has happened to you in the workplace in the PAST SIX MONTHS.

0 = I did not experience this event.

1 = I experienced this event at least once in the past six months.

1. I was ignored at school or at work because of my race.
2. Someone's body language showed they were scared of me, because of my race.
3. Someone assumed that I spoke a language other than English.
4. I was told that I should not complain about race.
5. Someone assumed that I grew up in a particular neighborhood because of my race.
6. Someone avoided walking near me on the street because of my race.
7. Someone told me that she or he was colorblind.
8. Someone avoided sitting next to me in a public space (e.g., restaurants, movie theaters, subways, buses) because of my race.
9. Someone assumed that I would not be intelligent because of my race.
10. I was told that I complain about race too much.
11. I received substandard service in stores compared to customers of other racial groups.
12. I observed people of my race in prominent positions at my workplace or school.
13. Someone wanted to date me only because of my race.
14. I was told that people of all racial groups experience the same obstacles.
15. My opinion was overlooked in a group discussion because of my race.
16. Someone assumed that my work would be inferior to people of other racial groups.
17. Someone acted surprised at my scholastic or professional success because of my race.
18. I observed that people of my race were the CEOs of major corporations.
19. I observed people of my race portrayed positively on television.
20. Someone did not believe me when I told them I was born in the US.
21. Someone assumed that I would not be educated because of my race.
22. Someone told me that I was "articulate" after she/he assumed I wouldn't be.
23. Someone told me that all people in my racial group are all the same.
24. I observed people of my race portrayed positively in magazines.

25. An employer or co-worker was unfriendly or unwelcoming toward me because of my race.
26. I was told that people of color do not experience racism anymore.
27. Someone told me that they “don’t see color.”
28. I read popular books or magazines in which a majority of contributions featured people from my racial group.
29. Someone asked me to teach them words in my “native language.”
30. Someone told me that they do not see race.
31. Someone clenched her/his purse or wallet upon seeing me because of my race.
32. Someone assumed that I would have a lower education because of my race.
33. Someone of a different racial group has stated that there is no difference between the two of us.
34. Someone assumed that I would physically hurt them because of my race.
35. Someone assumed that I ate foods associated with my race/culture every day.
36. Someone assumed that I held a lower paying job because of my race.
37. I observed people of my race portrayed positively in movies.
38. Someone assumed that I was poor because of my race.
39. Someone told me that people should not think about race anymore.
40. Someone avoided eye contact with me because of my race.
41. I observed that someone of my race is a government official in my state
42. Someone told me that all people in my racial group look alike.
43. Someone objectified one of my physical features because of my race.
44. An employer or co-worker treated me differently than White co-workers.
45. Someone assumed that I speak similar languages to other people in my race.

APPENDIX E

Racial Climate Scale (Watts & Carter, 1991)

Below are statements about the behaviors and policies that may or may not apply to your workplace. Using the scale below, answer the following questions about your current workplace. Choose the number that best describes how you feel.

1= Strongly disagree	2= Disagree	3= Neither agree nor disagree	4= Agree	5= Strongly agree	
<hr/>					
1. My organization goes out of its way to make people of color feel at home.					1 2 3 4 5
2. People of color are given the respect they deserve from Whites at work.					1 2 3 4 5
3. People of color are discriminated against through hiring practices.					1 2 3 4 5
4. Race determines who gets the most desirable work/assignments.					1 2 3 4 5
5. It's just as hard for Whites to get ahead here as for people of color.					1 2 3 4 5
6. In general, organization-wide racism is a problem here.					1 2 3 4 5
7. The racism here has caused me to consider quitting/transferring.					1 2 3 4 5
8. An important job of management here is to help people of color and other groups get along.					1 2 3 4 5
9. There are people of color in positions of power here.					1 2 3 4 5
10. People of color have little to say about decisions affecting this organization.					1 2 3 4 5
11. There are enough people of color in powerful positions here.					1 2 3 4 5
12. People of color and White employees generally have good working relationships here.					1 2 3 4 5
13. There is a very sensitive understanding and acceptance of differences about ethnic and racial groups here.					1 2 3 4 5
14. People of color get the promotions they deserve.					1 2 3 4 5
15. Many changes have been made to make services (resources) available to people of color.					1 2 3 4 5
16. Little has been done to change services or functioning to serve the culture of professionals of color.					1 2 3 4 5

17. The opinions of people of color are respected here.

1 2 3 4 5

18. Racism is not tolerated here.

1 2 3 4 5

APPENDIX F

Turnover Intentions (Collarelli, 1984)

Please answer each of the following items based on your current job and place of employment.
Please use the scale below.

1= Strongly disagree	2= Slightly disagree	3= Neither agree nor disagree	4= Slightly agree	5= Strongly agree
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1 2 3 4 5

1. If I have my own way, I will be working for
_____ one year from now.

1 2 3 4 5

2. I frequently think of quitting my job.

1 2 3 4 5

3. I am planning to search for a new job during
the next 12 months.

APPENDIX G

Overall Job Satisfaction Scale (Hackman & Oldham, 1976)

Please answer each of the following items based on your current job and place of employment. Please use the scale below.

1= Strongly disagree	2= Slightly disagree	3= Disagree	4= Neither agree nor disagree	5= Agree	6 = Slightly agree	7 = Strongly agree	
1	2	3	4	5	6	7	1. Generally speaking, I am very satisfied with my job.
1	2	3	4	5	6	7	2. I am generally satisfied with the feeling of worthwhile accomplishment I get from doing this job.
1	2	3	4	5	6	7	3. I am generally satisfied with the kind of work I do in this job.

APPENDIX H

Demographics Questionnaire

1. What is your age?

- 18-28
- 29-39
- 40-49
- 50-59
- 60-75

2. What is your preferred gender identity?

- Woman
- Man
- Transgender
- Gender nonconforming (e.g., androgynous, gender queer)
- My gender is not listed here (*please type your gender identity*): _____

3. What is your race/ethnicity?

- African-American/Black
- Asian-American/Pacific Islander
- Native American/Indigenous American/American Indian
- Hispanic/Latino/a
- Multi-Racial
- White/Caucasian
- My race/ethnicity is not listed here (*please type your race/ethnicity*): _____

4. What is your sexual orientation? (*select all that apply*)

- Straight/heterosexual
- Bisexual
- Gay/homosexual
- Lesbian
- Queer
- Asexual
- Pansexual
- My sexual orientation is not listed here (*please type your sexual orientation*): _____

5. What is your current relationship status?

- Single (never married)
- Married or in a domestic partnership

- Widowed
- Divorced
- Separated

6. Please select the highest degree or level of school that you have completed:

- Less than a high school diploma
- High school degree or equivalent (e.g. GED)
- Some college, no degree
- Associate degree (e.g. AA, AS)
- Bachelor's degree (e.g. BA, BS)
- Master's degree (e.g. MA, MS, MEd)
- Professional degree (e.g. MD, DDS)
- Doctorate (e.g. PhD, EdD)

7. Please select your current employment status

- Employed Full Time (40 or more hours per week)
- Employed Part Time (39 or less hours per week)
- Not employed

8. Please select your yearly household income (the income of those on whom you rely financially, including yourself)

- Below \$10,000
- \$10,001 to \$40,000
- \$40,001 to \$70,000
- \$70,001 to \$90,000
- \$90,001 to \$120,000
- Above \$120,001

9. Please select the option that best describes the size of your current workplace:

- Less than 20 employees
- 21 – 100 employees
- 101- 250 employees
- More than 250 employees

10. Please answer the following question: I am a part of the racial/ethnic _____ in my organization.

- Majority
- Minority

11. Please select the category that best describes your field of employment:

- Science
- Technology

- Engineering
- Mathematics

12. What is your occupation? _____

13. Years in current organization:

14. Years in current position:

10. We would like to obtain information regarding the geographic location of our sample. This information will remain confidential. Please fill in the state in which you currently reside below.

State: _____

APPENDIX I

Participant's Rights

- I have read the Research Description above and understand that my participation in this study is completely voluntary.
- I may refuse to participate or withdraw from participation at any time without jeopardy to future medical care, employment, student status or other entitlements
- The researcher may withdraw me from the research at his/her professional discretion.
- If, during the course of the study, significant new information that has been developed becomes available which may relate to my willingness to continue to participate, the investigator will provide this information to me.
- Any information derived from the research project that personally identifies me will not be voluntarily released or disclosed without my separate consent, except as specifically required by law.
- If at any time I have any questions regarding the research or my participation, I can contact the principal investigator – Rebecca Semel, M.S.Ed (rs3463@tc.columbia.edu) -- who will answer my questions.
- If at any time I have comments, or concerns regarding the conduct of the research or questions about my rights as a research subject, I should contact the Teachers College, Columbia University Institutional Review Board /IRB. The phone number for the IRB is (212) 678-4105. Or, I can write to the IRB at Teachers College, Columbia University, 525 W. 120th Street, New York, NY, 10027, Box 151.
- For my personal records, I should print a copy of the Research Description and this Participant's Rights document.

YES, I have read and understand the above, and I agree to participate in this study.

NO, I do not agree to participate in this study.

APPENDIX J

Recruitment Message

A researcher at Columbia University looking for individuals who would like to participate in a research study exploring the impact of race on the work experiences of employees in STEM (Science, Technology, Engineering, Math) careers. This survey should only take about 20-30 minutes.

After reading below, if you are willing and eligible, please just click on the link below. Thank you in advance for your time and input and for sharing your experiences! We would really appreciate it if you could pass this message along to anyone else that you think may be eligible and willing to participate.

Eligibility Criteria:

- Must be at least 18 years old
- Must identify as an employee in a STEM field
- Must be employed, either part-time or full-time
- Must live in the U.S.

If you meet the above criteria and are interested in participating, please click on the link below to begin the short survey.

<http://bit.ly/2EFYsZl>

***This study has been approved by the Teachers College, Columbia University Institutional Review Board: Protocol #4817. If you have any complaints, questions, concerns, or would like to know the results, please feel free to contact us via e-mail at rs3463@tc.columbia.edu